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## Buyout Bonanza

Progress buys Excelon; Quest picks up Sitraka in deals totaling \$75.7 million

BY DAVID RUBINSTEIN

In a sure sign that consolidation within the software industry has resumed, three more acquisitions were announced late last month, with Borland Software Corp. looking to take over TogetherSoft Corp. for \$185 million in cash and stock, Progress Software Corp. agreeing to acquire Excelon Corp. for \$24 million, and Quest Software Inc. coming to terms with Sitraka Inc. for a \$51.7 million buyout.

When coupled with Novell Inc.'s purchase of SilverStream Software Corp. in June and Borland's pickup of Starbase Inc. in early October, almost \$500 million has changed hands while reducing the number of

players in the Java and XML markets.

According to Jim Duggan, a senior analyst at Gartner Inc., the mergers prove there is plenty of life in the software space. "There's good, innovative technology that's getting to a price that's reasonable for it. The valuations were unreasonably high, but these companies have come to realize the only workout they have is to be acquired by a larger company. We've been expecting this kind of consolidation for some time now."

Pete Sliwkowski, vice president of product management at

> continued on page 16

Borland fuels expansion through \$185 million TogetherSoft purchase

BY DAVID RUBINSTEIN

Borland Software Corp. capped a frenzied October of acquisitions late last month with the announced purchase of TogetherSoft Corp. for \$185 million in cash and stock, the companies announced.

When coupled with its earlier takeovers of Starbase Corp. and BoldSoft, Borland last month spent more than \$210 million to extend its offering in the application development life-cycle space and to begin to define its place in what it is calling an emerging design-driven development.

In the Nov. 1 issue ("Starbase Lifts Borland Into Enter-

prise Orbit," page 1), SD Times observed that Borland's product line closely mirrored that of Rational Software Corp., lacking only a modeling tool; at the time, CEO Dale Fuller insisted that he didn't intend to compete with Rational. Now that Borland has added a modeler, Ted Shelton, vice president of business development for Borland, still echoes Fuller's denial.

"[Rational's] approach is different than ours," Shelton said. "Their modeling tool, Rose, targets software architects, who then pass these models down to developers for implementation. The acquisition of TogetherSoft does not announce an ambition by Borland to address the archi-

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## Schwartz: Sun's Future Tied to Solaris

Head of software admits need for better execution, touts integrated solution

BY DAVID RUBINSTEIN

AND ALAN ZEICHICK

Jonathan Schwartz believes that Solaris and Sun Microsystems Inc.'s "history of disruptive innovation" are his strongest weapons against archcompetitors IBM and Microsoft.

Schwartz, executive vice president in charge of Sun's software group since July, has been charged with combining the company's many software initiatives into a single strategy—and with communicating and exe-

cuting that strategy. That's no easy challenge given the breadth of Sun's offerings, from J2ME virtual machines to operating systems to server-based identity solutions to StarOffice. And all within an organization that's traditionally viewed as a hardware provider. Yet Schwartz is bullish—because, he says, of the strength of Solaris.

In an exclusive interview with SD Times, Schwartz said that his goal is to combine the many pieces of Sun's server-side software stack into a single, tightly integrated offering—to be delivered by June 30, 2003.

"We will take all the middleware that is Sun ONE and embed it in Solaris. The Solaris distribution will also be our Linux distribution, and also our Solaris on Intel distribution.



Sun has done 'a poor job' of marketing Sun ONE, admits Schwartz.

That is, one distribution for the entire market. We will do the same thing on the desktop, through the delivery of Gnome, Mozilla, StarOffice, Java, probably Evolution, probably My-

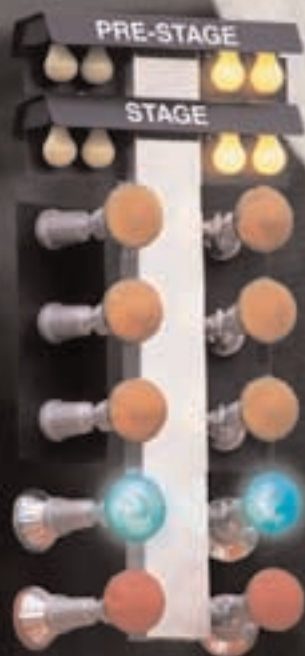
SQL. And we will continue driving J2ME on handsets as they emerge," he said.

"Customers tell me that they only have two main thrusts right now," Schwartz explained. "One is cost reduction, and the other vendor consolidation. Every customer I've spoken to has said, 'I would love it if you would assemble all of your middleware components and deliver it to me on Solaris so I would have one vendor relationship.' I believe that we have a very strong presence and reputation for driving this integration together."

Schwartz emphasized that Sun would be delivering the full integration software on all three operating systems. When asked for the reason behind the company's reversal

> continued on page 18





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# Mindreef Puts Up SOAPscope

NuMega founders: New company with a similar debugging agenda

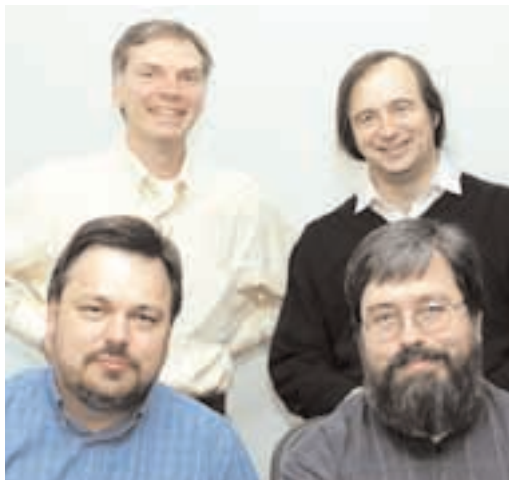
BY EDWARD J. CORREIA

Frank Grossman and Jim Moskun are back. In 1997, the pair sold NuMega Technologies, which they founded a decade earlier, to Compuware, leaving that larger company with NuMega's well-known SoftICE and BoundsChecker tools for Microsoft and Java developers. Now, out from under the acquisition's contractual obligations, Grossman and Moskun have formed Mindreef LLC, which in late October released its second beta of SOAPscope, a platform-independent diagnostic tool for Web services that according to its creators is unlike anything on the market today.

"We haven't seen anybody doing quite what we're doing with diagnostics," said Moskun, 44, one of four Mindreef founders. The company has not yet assigned official titles to its officers. Moskun said that the company's premiere product is aimed at Web services pioneers. "We're looking at the world as distributed applications. [SOAPscope] 1.0 is focused on people that are kicking the tires and doing the point-to-point Web services work—not yet building distributed applications, but getting to know Web services and getting them to work smoothly with the immature technology that's out there."

Moskun described SOAPscope as a packet sniffer. "We're looking for SOAP packets and collecting and storing them in a repository or letting you look at them in a live queue," allowing developers to see more than pure XML. "Although XML is human-readable, it's not very pretty. What we do is bring it into a pseudo-code and make it look like a function so people can see what the call was and what the return parameters were." Pseudo-code also benefits developers, according to co-founder Grossman, with its simplicity. "You might reduce two or three pages in a WSDL [file], for example, down to three or four lines."

Now in beta is the personal edition, which will sell for \$99 and is scheduled for release in late November. A professional edition, set for release before year's end, will be able to "take a SOAP



Mindreef founders (clockwise from top left): Jim Moskun, Frank Grossman, Dave Seidel and Mark Ericson

packet and verify conformance with a WSDL file," Moskun said. A team version also is planned; prices for the latter two products were not announced. The software is implemented as a Windows executable with an HTML user interface, Grossman said, with a Linux version to follow shortly, but he gave no time line.

The 41-year-old Grossman was optimistic about entering a market crowded with Web services tools. "[NuMega] started out with MS-DOS and went to Windows; we [had] hundreds of thousands of users of our low-priced shrink-wrapped products. Now the movement is toward loosely coupled component-based distributed applications, and we feel that most of those people will go that same route. And since SOAPscope doesn't care what language or operating system you're using, we have a broader [potential] market."

As for the origins of the company name, Moskun offered this thought: "A coral reef is a collective organism that is bigger than the sum of its parts. [Mindreef consists of] great minds working together dealing with distributed applications that are greater than the sum of their parts." The company's other founders are 16-year software development veteran Dave Seidel, 44, and Mark Ericson, 38, who spent most of his 18 years of industry experience working with object technology and distributed systems. Mindreef ([www.mindreef.com](http://www.mindreef.com)) is based in Hollis, N.H. ■

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# Iona Connects to CORBA Heritage

## Develops object-to-Web services migration solution

BY DAVID RUBINSTEIN

Looking to tap into an existing base of CORBA applications, Iona Technologies Inc. last month announced CORBA Connect, which it claims can be used to extend deployed CORBA applications as Web services and maximize a company's investment in the technology through reuse.

CORBA Connect combines Iona's recently released XMLBus version 5.4 with technical and customer services support. XMLBus is the company's visual tool set for creating, deploying and managing Web services. New to version 5.4 is complete CORBA data type support, an "operation flow designer" that helps developers overcome impedance mismatches that can occur when bridging object systems and Web services, and enhanced security via SSL. Also, the new version supports Iona's Orbix 3.x and 2000 platforms as well as ORBacus,

which Iona acquired in early 2001, and Borland's VisiBroker.

"By using CORBA as Web services, you can extend the applications without changing the code, or changing the underlying infrastructure," said Simon Pepper, product director of Iona's Orbix E2A Application Server Platform. The

added platform and tool support "now accounts for 90 percent of all commercial ORBs in deployment."

CORBA Connect takes CORBA IDL interfaces and maps them to WSDL in an automatic, graphical presentation, Pepper said. This allows the business logic underlying

an application to be extended without having to redevelop and retest code, Pepper said.

Although Iona in the recent past has de-emphasized its CORBA heritage to promote its Java and Web services solutions, Pepper said the company (www.iona.com) merely wanted to show it had offerings in

other areas. "The truth is, we never went away from our CORBA base, but we looked to lose the tag, 'Hey, you're the CORBA guys.'"

Targeting IT and project managers and architects, Iona's approach is to allow the customer to pick the levels of software and services needed, and the individual packages will be priced accordingly. "This is not a pure product sale," Pepper said. "We think this will help us get our foot back in some doors that may have been closed off to us." ■

## Spectrum Updates SCM Tool

BY ALAN ZEICHICK

The latest version of Spectrum Software Inc.'s source-code configuration management tool, released at the end of October, focuses on adding flexibility and interoperability to the software's reporting capabilities.

According to Spectrum CEO Sarathi Srinivasan, SpectrumSCM 1.1 (www.spectrumscm.com) allows development managers to create and report customized project metrics to support quality objectives, such

as the Software Engineering Institute's Capability Maturity Model, or CMM.

Also new to version 1.1 is the ability to store binary files of unlimited size, as well as simpler mechanisms for attaching, viewing and tracking a change request's supporting documentation and images. There is also a "make common" feature that allows artifacts to be shared between multiple branches of a source or project tree. In addition, the update allows multiple

users to check out and edit the same file simultaneously.

According to Srinivasan, the tool's pricing has remained constant, and at a starting cost of \$750 per developer seat, decreasing to \$400 in high volumes, is significantly less expensive than competing SCM tools. "Traditionally, organizations have been reluctant to purchase enterprise CM tools or implement CM solutions because such tools were expensive and not affordable," he

said, adding "SpectrumSCM's entry-level pricing is at the cost of a version control software like [Microsoft's] Visual SourceSafe but provides full CM functionality."

Srinivasan emphasized that SpectrumSCM is a multiplatform solution, as "one single system that supports multiple platforms to undertake version control, issue tracking, process management/control, workflow, release management, parallel development and more." Platforms supported include Linux, Mac OS, Unix and Windows, as well as IBM's mainframes. ■

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## News Briefs

## COMPANIES



**Ready-to-Run Software Inc.** has announced its intention to offer a non-Windows implementation of **Microsoft Corp.**'s .NET Passport software. The software will be based on Microsoft's Shared Source License for Passport ... **Sandbox**, a company in South Africa, has launched [www.starbase-utilities.com](http://www.starbase-utilities.com), a source for free add-ins for **Starbase Corp.**'s applications ... **TopCoder Inc.**, a company that stages programmers' coding competitions, has launched an employment service leveraging its database of former contestants ... **Insignia Solutions Inc.** will be providing an embedded J2ME runtime engine for **Qualcomm Inc.**'s BREW-based cellular phones ... **ClientSoft Inc.** will integrate its Tanit Objects host integration software with **Actional Corp.**'s SOAPswitch and SOAPstation product lines to integrate mainframes via Web services ... **Microsoft Corp.** has renamed its Windows CE for Automotive product line as Windows Automotive. The platform encompasses Windows CE, the .NET Compact Framework and voice-enabled Bluetooth.

## PRODUCTS

Apple Computer Inc. has released its **Rendezvous** networking code as open-source software. Rendezvous allows devices to automatically discover and connect over an IP-based network, and runs on Linux, Mac OS X, Unix and Windows ... **Wakesoft Inc.** has integrated its **Architecture Server** with Oracle9iAS. Architecture Server is an out-of-the-box J2EE application architecture, including a collection of predeveloped program templates, adapters and commonly used program code, that provides a framework for structuring, building and implementing J2EE applications ... **Solutionsoft** has updated its **WordtoWeb** converter software to support Word XP and to automatically include a collapsible table of contents using DHTML. Version 2.5 costs \$299 ... **Desaware Inc.** has updated its **NT Service Toolbox** to work with Windows XP. The toolkit helps Visual Basic 6.0 developers create applications that can run as background services on Windows. Version 2.0 also supports command-line options during installation and can identify the logged-in user. The company says it will release a .NET version of Service Toolbox before the end of 2002 ... **Extended Systems Inc.** has updated its **XTNDConnect Server**, a mobile data management and synchronization system, to add new security features. Version 3.5 works with



Radius and SecureID servers, DMZ proxies and power-on passwords. The software costs \$125 per seat ... **ComponentOne LLC** has released a new Windows component suite, **ComponentOne Studio Enterprise**. The suite includes many of the company's ActiveX, .NET (Windows Forms) and ASP.NET (Web Forms) components, and costs \$899.95 ... **Xtremesoft Inc.** has updated its AppMetrics family of performance measuring tools. **AppMetrics for Transactions 2.5**, which works with Microsoft Transaction Server and COM+, has new features for measuring application availability. **AppMetrics for BizTalk Server 2.0** streamlines the process of handling exceptions relating to suspended documents, and identifies the status of workflows and documents ... **IBM Corp.** has updated its **AIX** 64-bit operating system to version 5.2. The update includes dynamic logical partition for IBM's POWER4-based servers and keyed capacity upgrade on demand ... **KaVaDo Inc.** released a SOAP and Web services security module for its **InterDo** security software. The module compares SOAP messages with the standard definition, preventing malformed structures from being passed to Web apps, and secures messages against known application vulnerabilities ... **Compuware Corp.** has released version 4.1 of **DevPartnerDB** for Oracle, its set of developer productivity tools. The update works with stored procedures and enhances links to external debuggers. The software costs \$3,300 per developer ... **QED Business Systems Ltd.** offers **FireXML for CICS**, which allows CICS applications to communicate directly via XML-based Web services. The software, which runs on the mainframe, works with COBOL, PL/I, C and Assembler applications ... **RadView Software Ltd.** has updated its **WebFT** functional testing tool for Web applications. Version 2.0 uses client-side JavaScript to improve recording of user test cases and playback of user interactions. It > continued on page 14

# VA Software Targets Dev Managers

## Enhanced SourceForge tool provides visual console

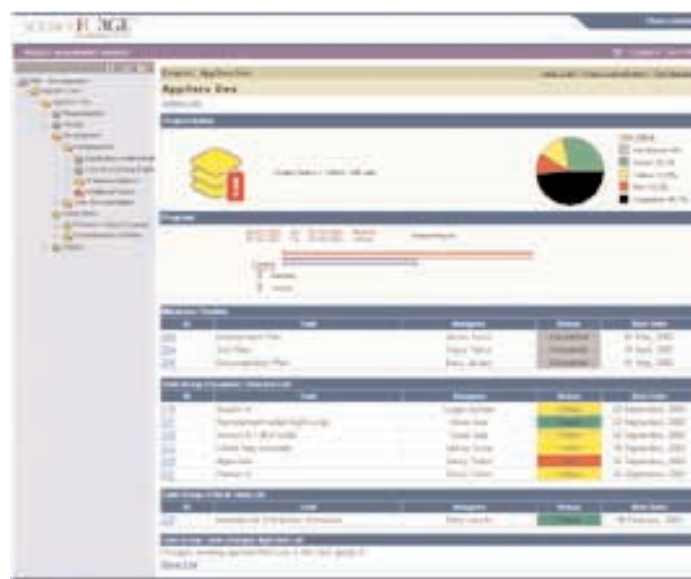
BY ALAN ZEICHICK

VA Software Corp., the former Linux hardware company, is continuing its push into enterprise applications development with the latest release of SourceForge, its software life-cycle management package. The new SourceForge Enterprise Edition 3.2, which will be available mid-November, sports a new graphical management console designed to provide instant status reports on individual projects, milestones and metrics.

The new console, according to VA senior vice president David Appelbaum, is designed to complement SourceForge's tool set, which offers functions ranging from source-code and configuration management to bug tracking to a component library. "It provides the wrapper" around those functions, he said, noting that the single user interface to SourceForge is what differentiates it from other tools like Perforce, Merant's PVCS or Starbase's StarTeam.

"You don't have to jump from tool to tool," Appelbaum said, adding that because there's a single interface to SourceForge, events triggered in one function, such as a defect or support call, would automatically be propagated to the correct developer or tester, and logged appropriately.

Appelbaum stated that one of the key benefits of the new graphical console would be its capture and presentation of metrics used to improve a company's software development processes, such as needed for Six-Sigma, ISO 9001 or CMM programs.



SourceForge's new Project Management Console lets managers visually track project status.

The new management console won't be available on the company's online version of the SourceForge system, said Appelbaum, which he described as being targeted more toward casual programmers, open-source projects and peer-led programming projects that lack the formal reporting and management requirements of an enterprise development team. "It's a proof point for us, and a valuable tool for demonstrating scalability and security of the platform," he said, claiming that SourceForge.net has more than 450,000 users and hosts more than 42,000 projects.

The size of the SourceForge.net project, and increased emphasis on large enterprise customers, is also behind the company's tight partnership with IBM Corp., according to Appel-

baum; the partnership led to a recent announcement that VA Software ([www.vasoftware.com](http://www.vasoftware.com)) was using IBM's DB2 database to store the SourceForge.net projects, instead of the open-source PostgreSQL database. "We're working up the IBM stack," he said, saying that SourceForge is already integrated with IBM's WebSphere Studio developer tools, and hinting that a version of SourceForge designed specifically for the WebSphere application server is in the making. While he said that the IBM partnership isn't an exclusive arrangement, he admitted that "none of the other [app server or database vendors] has seen the benefit."

SourceForge Enterprise Edition 3.2 will be priced at \$2,725 per developer seat, he said, the same as the previous version. ■

# FLASHLINE'S COMPONENT MANAGER GETS BOOST

BY CHRISTINA M. PURPI

Flashline Inc. has added discussion forums and deeper integration with source-code configuration management tools, and has streamlined a couple of asset management features in its latest version of Component Manager Enterprise Edition.

According to Cathy Lippert, vice president of product management at Flashline ([www.flashline.com](http://www.flashline.com)), CMEE 3.2's new features fall into three categories: collaboration and community; bringing CMEE into development environments; and streamlining asset management.

"We've implemented a forum feature that helps developers make easier and faster decisions," claimed Lippert. Developers can receive assistance through peers and obtain an informal knowledge base through threads of discussion.

CMEE 3.2 has a deeper integration with Merant International Ltd.'s PVCS Dimensions, an SCM tool that allows developers to browse through a file folder hierarchy in order to select files needed for upload. Tighter integration with other leading SCM tools is planned for a future release, Lippert said.

Finally, Lippert explained, by streamlining CMEE's asset management features, developers can now receive e-mail notifications when an asset has been submitted and approved, have the ability to upload files or assets from a file system directly to CMEE even if the source code is not managed by an SCM system, and import extra data, or metadata, into CMEE.

CMEE 3.2 is scheduled to be available by the end of this month and costs \$34,500 per server installation, according to Lippert. ■



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# GraphOn Goes for Device Driver Model

Web-access performance, compatibility improved by replacing GDI calls

BY ALAN ZEICHICK

GraphOn Corp.'s GO-Global Web-enablement software for Windows sports a new name—and a new architecture, which the company claims broadens application compatibility and improves scalability for accessing Windows XP desktop applications through a browser.

GO-Global for Windows 2.1 is the successor to GO-Global XP 2.0, explained Bob Peterson, GraphOn's COO. "[XP] was a very limiting name, since it does more than work on [Windows] XP. So we changed it to GO-Global for Windows," he said.

According to Bill Tidd, director of engineering, "Version 2.0 intercepted the graphical user interface within the application at the GDI interface level. There were API hooks that would intercept application calls to the operating system. We would convert those functions into GraphOn Protocol Requests and forward

them onto the client, where they would be displayed." GraphOn ([www.graphon.com](http://www.graphon.com)) offers several clients, including a Java plug-in to a Web browser, an ActiveX control and a native graphical client for Linux or Windows.

By contrast, in version 2.1, "we have replaced that GDI interface with a display driver that runs within the operating system," Tidd continued. "We're now down at the display driver interface level, which means that the applica-

tions are running on the operating system normally." He claimed that "this took us a big step forward in improving our application support, and eliminated some emulation, which helped with compatibility and dramatically improved perfor-

mance and scalability of the product."

GO-Global for Windows is primarily offered as an OEM product to ISVs, which use its capability as a fast way to add Web access to Windows applications without changing the code, said Peterson, who added that the company's partners now have the new version 2.1, and it should be generally available through ISVs in November or December. ■

## CA Pours Java Into Advantage Gen

IDE now supports stateless session beans, full EJB 2.0 spec

BY DAVID RUBINSTEIN

Computer Associates International Inc. has added support for Enterprise JavaBeans to the new 6.5 release of its Advantage Gen modeling, code generation and deployment tool.

The previous version generated only HTML and JavaServer Pages code, according to Michael Amundsen, director of product management for the Advantage developer series. By adding EJBs for back-end servers, customers can retain their assets on mainframes and

Unix servers but still leverage the distributed capabilities of J2EE, he said. The company also is working on adding support for .NET to Advantage Gen, but Amundsen did not reveal a time frame for the completion of that project.

The use of a model-driven approach with automatic code generation allows those developers not expert in J2EE to take advantage of many of the specification's distributed, multiplatform capabilities, according to Cindy Peake, product

marketing manager. "The skill set of J2EE is just too daunting," she said.

And, despite complaints from developers that code generated by automatic engines seldom is production-ready, Peake maintained "the vast majority of our customers don't touch the source code that's generated. And, they say they've never had a crash or significant downtime with the generated code."

Once the code is generated, it can be auto-deployed to any J2EE 1.3-compliant application

server, but it works most closely with BEA's WebLogic and IBM's WebSphere servers, Amundsen said. Also, those applications can be exposed as Web services, easing development and deployment issues.

Advantage Gen sells for \$12,000 for one workstation without EJB deployment capability. An EJB option, which includes the Advantage Joe Java development environment that leverages the EJB 2.0 specification, brings the total per-developer cost to \$23,000. ■

## Technology in your Hands

**Temporal Data and the Relational Model**  
by C.J. Date, Hugh Darwen, and Nikos A. Lorentzos

**The Systems Designer's Guide to VHDL-AMS: Analog, Mixed-Signal, and Mixed-Technology Modeling**  
by Peter J. Ashenden, Gregory D. Peterson, and Darrell A. Teegarden

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# SoftIntegration Interprets Control Systems

## C/C++ language superset designs, analyzes linear time-invariant models

BY ALAN ZEICHICK

SoftIntegration Inc. has released a special toolkit for developing time-invariant control systems in C or C++. Ch Control Sys-

tems Toolkit uses the company's own superset of the ANSI standard C language to allow for the modeling, design and analysis of both continuous-time and dis-

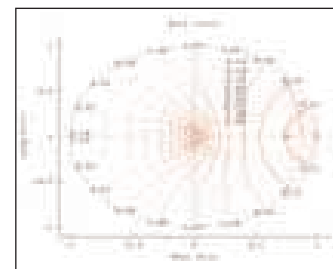
crete-time linear time-invariant systems.

According to the company, the toolkit, which is based on SoftIntegration's Ch C-language

interpreter, can interface with existing C/C++ source code or binary libraries. It allows control systems to be modeled as a set of transfer functions, zero-pole-

gain or state-space. The kit also can convert systems from continuous to discrete, discrete to continuous, and from one type of discrete system to another. The results can be displayed as 2D or 3D plots, or evaluated numerically.

Ch Control Systems Toolkit ([www.softintegration.com](http://www.softintegration.com)) is priced at \$499 per seat for commercial applications, and can be used in Linux, Mac OS X, Unix and Windows. ■



A root locus plot from a program generated by SoftIntegration's Ch Control Systems Toolkit

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## NEOCORE EXPLORES DATABASES

New Insight tool lets developers, users query XMS directly

BY ALAN ZEICHICK

NeoCore Inc. has released a new application that lets developers and business users directly access information stored in the company's XML database.

The new Insight tool provides direct access to NeoCore's XML Information Management System, also known as XMS. According to the company, Insight allows users to explore and chart data, create custom reusable dashboards for monitoring specific types of data, and also retrieve individual database records using text-based queries.

Insight is being offered as a free tool for XMS users; XMS itself costs \$20,000 per server processor for 32-bit deployments, or \$30,000 for the 64-bit version. The company ([www.neocore.com](http://www.neocore.com)) also has released a free plug-in for Altova's XML Spy that allows developers to directly access and manipulate XMS data from within Altova's XML editor. ■





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# XML Conference to Focus on Government

BY CHRISTINA M. PURPI

With plenary sessions such as "Web Services in Action at the United Nations" and classes such as "XML and Pharmaceuticals: Regulatory and Non-Regulatory Applications," the

seventh annual XML Conference and Expo in Baltimore will emphasize the use of XML and related specifications within the government sector.

According to Tanya Bosse of IDEAlliance Inc., the show's

producer, tutorials on ebXML and Web services security also have been added, and new classes will focus on such issues as open-source implementations of XML-related standards and metadata. In the past couple

of years, she said, many government agencies have started using XML and a number of ideas submitted for the conference were government-related.

The conference organizers could not provide an estimate

of this year's attendance; in 2001, the conference attracted between 1,100 to 1,200 attendees, Bosse said.

Among the keynote speakers will be Robert Wahbe, Microsoft Corp.'s general manager of XML Web services; Craig Hayman, vice president of IBM Corp.'s Software Group Strategy; Whitfield Diffie, chief security officer of Sun Microsystems Inc.; and Jon Bosak, XML architect, also of Sun. ■

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**Wednesday,** 9 a.m.-7 p.m.  
**Thursday,** 9 a.m.-5:30 p.m.  
**Friday,** 9 a.m.-3 p.m.

**EXHIBIT HOURS:**

**Tuesday,** 12:30 p.m.-7 p.m.  
**Wednesday,** 12:30 p.m.-7 p.m.  
**Thursday,** 10:30 a.m.-3 p.m.

**OPENING KEYNOTE SPEAKERS:**

**Tuesday**  
9 a.m.-9:45 a.m., Robert Haycock,  
manager, the Office of Management  
and Budget's Federal Enterprise  
Architecture Initiative  
9:45 a.m.-10:30 a.m., Pam Samuelson,  
professor, University of California at  
Berkeley

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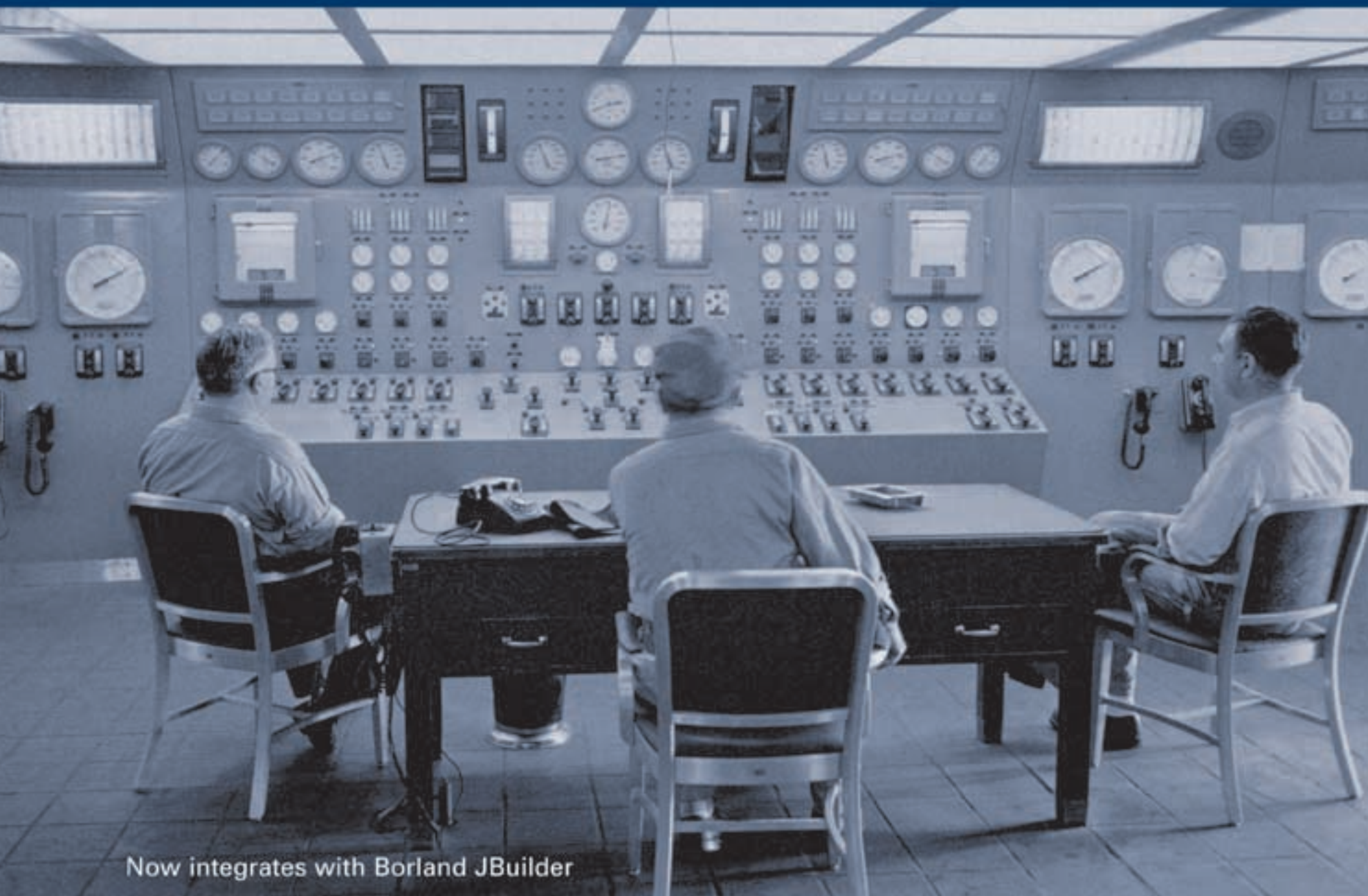
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## News Briefs

## MORE PRODUCTS

&lt; continued from page 6

also has a new graphical tool for modifying test scripts, and can share scripts with RadView's WebLoad load-testing tool . . . XAware Inc. has released Bluefin-compliant components for its namesake **XAware XML** database. Bluefin is a storage industry specification that allows for interoperability of multivendor storage systems across a physical storage environment, such as a storage area network. XAware's approach transforms existing storage interfaces into XML objects . . . Pervasive Software Inc. claims that **Pervasive.SQL 8** application-specific and Web-based databases are significantly faster than previous versions.



Version 8, currently in public beta, is scheduled for release by year's end; the update also supports the Java Data Objects specification

. . . Version 2.1 of WRQ Inc.'s **Host Integrator** server can automatically generate and present host screens as Web pages, generate Java beans that encapsulate mainframe applications, and generate Web applications that can span those apps, even spanning multiple host screens. Those Web applications can be edited by a JavaServer Pages design tool . . . Alcatel is now offering an XML SDK for its **OmniPCX 4400 IP-PBX**. The SDK allows developers to create telephony applications that integrate the PBX into their Web sites . . . The Finnish company Innovative Ideas Oy has released **InnoXMLp**, a validating parser for XML. Version 1.1 of the parser, which runs on Symbian OS, Unix and Windows, is based on its own client/server parsing protocol, which the company claims makes it faster than competitors, while using less memory on constrained systems . . . StarPrint Ltd.'s new **VS.NETcodePrint** is an add-on for Microsoft's Visual Studio .NET that produces printouts of Visual Basic applications. The \$69 utility is an upgrade to the company's **VBcodePrint** tool for pre-.NET VB developers . . . PointBase Inc. has delivered a version of its **PointBase** embedded Java relational database localized for the Japanese market . . . Metrowerks Inc., a subsidiary of Motorola Corp., has released a version of its **CodeWarrior** embedded development suite for Palm OS 5-based devices running the ARM processor core.

## PEOPLE

**David Pratt** is taking on the role of interim president and CEO of AvantGo Inc. Pratt was most recently president and CEO of gForce Systems Inc., an online education company that was acquired in October 2001; before that, he was COO of Adobe Systems Inc. The previous CEO, **Richard Owen**, resigned as AvantGo moved from Nasdaq's National Market to the Small Cap Market . . . **Michael Barrett** is the new president of the Liberty Alliance board of directors. Barrett is VP for Internet strategy at American Express Co. His term runs through December 2003 . . . SteelTrace Ltd. has appointed **Mark Melville** as its new CEO. Melville previously held the position of VP of corporate development at MobShop Commerce Technologies and replaces **Tara O'Sullivan**, who is now serving as SteelTrace's COO.

## STANDARDS

The Java Community Process has moved **JSR-31, XML Data Binding Spec**, to a public review draft; approved the community review draft of **JSR-128, JSP Tag Library for Edge Side Includes**; and offered final approval for **JSR-109, Implementing Enterprise Web Services**. Meanwhile, Adam Bien, who had submitted **JSR-193, Client Side Container for J2EE**, withdrew the spec due to lack of support from the JCP's executive committee, which cast seven votes against it. The JCP also has offered **JSR-196, Java Authentication Service Provider Interface for Containers**, for public review. This JSR seeks to define a standard interface by which authentication modules may be integrated with containers such that these modules may establish the authentication identities used by containers . . . The **SQLX Group** vendor consortium has voted to join the **International Committee for International Technology Standards**. The group will now be known as **INCITS Task Group H2.3**, and participation will be open to any interested party . . . The HR-XML Consortium has approved a **Stock Plan Interface Standard** for human-resources documents. ■

# BEA Tackles Integration With Liquid Data Server

## J2EE application aggregates, transforms, publishes real-time XML views of enterprise data sources

BY ALAN ZEICHICK

BEA Systems Inc. is turning its focus to data integration with its new Liquid Data server, designed to act as an aggregation and transformation resource for customer-service applications, portals and other apps running on BEA's application server.

"This fits into BEA's stated strategy of becoming a leader in enterprise integration," said Pavey Purewal, senior product marketing manager for Liquid Data. "We're solving the real-time information integration problem. Liquid Data provides real-time data aggregation and data access for real-time visibility into front-office applications. It's a complement to the rest of our platform suite," that is, WebLogic Application Server 7.0 and Portal Server 7.0. "Living in the heterogeneous environment that we do, with operational data in data silos, Liquid Data provides a layer of communication on top of the silos, so you can build applications much more rapidly," she added.

Liquid Data is a J2EE appli-

cation that runs within a container on a WebLogic app server, according to Ajay Patel, senior director of product management. It may be deployed on a dedicated server or share a server with the portal application, depending on scalability and performance needs. Within Liquid Data, "a data architect, in conjunction with the portal developer, understands what the requirements are and how you want to query the underlying data sources. The data architect then creates a virtual view of the information [within Liquid Data], and publishes a set of parameterized queries that the portal developer would use. The end user would then have a constrained set of queries for getting to the data," he said.

"How do you unlock the data that's sitting in your enterprise, and make it available in a reusable, sharable manner across multiple applications?" asked Patel. "Our approach leverages WebLogic Server's infrastructure to provide connectivity to various data sources,

such as databases, applications available via Web services or flat files. Liquid Data provides an XML view of those data sources.

"It lets you introspect those data sources and see what the underlying schema looks like," Patel continued, "and it provides a design-time tool to start modeling and creating what the application view or the portal view would be. A drag-and-drop paradigm lets you map or connect the source views to the target views, in effect creating an enterprise join across these data sources. Once that is done, you can publish those views and make them available to other applications, such as portals." The view is defined in XML, and XQuery is used as the data description and query language when communicating with Liquid Data. The architect can also define data transformations to take place within Liquid Data server, he added.

Liquid Data was expected to be available in early November, and is priced at \$25,000 per server processor. ■

# INTEGRATE 2002 A FIRST FOR OMG

BY CHRISTINA M. PURPI

This month's Integrate 2002 conference, produced by Object Management Group Inc., is the organization's first conference open to the general public. "Because integration is the problem that just won't go away, OMG anticipates a successful launch of its new Integrate series geared at educating IT managers," said Bill Hoffman, the consortium's president.

The first of five planned events for OMG, Integrate is targeted toward senior executives responsible for important IT decisions, rather than the technical staff. The conference consists of two tracks with a total of 16 sessions focusing on key OMG areas, such as "Data Integration Issues for the Large Enterprise," "Web Services—Surviving the Transition" and "Model Driven

Business Integration."

Integrate 2002 will take place from Nov. 19-20 in Arlington, Va., and also will feature a CIO roundtable and a keynote debate on Java versus .NET, with the polar posi-

tions taken by David Goodhand, a .NET evangelist from Microsoft Corp., and Ed Julson, a group marketing manager at Sun Microsystems Inc. responsible for XML and Web services technologies. ■

<b>CONFERENCE:</b> Nov. 19-20 Crystal Gateway Marriott, Arlington, Va.	<b>TUTORIALS:</b> <b>Monday (preconference)</b> 1 p.m.-5 p.m., "Introduction to OMG's Specification Suite," Jon Siegel, VP, technology transfer, OMG 5 p.m.-6:30 p.m., "How to Build Real-Time Systems With CORBA," Bill Beckworth, CEO, Objective Interface Systems Inc.
<b>CONFERENCE HOURS:</b> <b>Tuesday</b> , 8:30 a.m.-4:30 p.m. <b>Wednesday</b> , 8:30 a.m.-6 p.m.	<b>Tuesday</b> 1 p.m.-5 p.m., "Modeling Enterprise Collaboration," Cory Casanave, president, Data Access Technologies <b>Wednesday</b> 2 p.m.-5:30 p.m., "A Technical Introduction to CORBA," Jon Siegel <a href="http://www.integrate2002.com">www.integrate2002.com</a>
<b>EXPO HOURS:</b> <b>Tuesday</b> , Noon-6 p.m. <b>Wednesday</b> , 10 a.m.-6 p.m.	
<b>KEYNOTES:</b> <b>Tuesday</b> , 8:30 a.m.-10 a.m., CIO Roundtable <b>Wednesday</b> , 8:30 a.m.-10 a.m., Debate: ".NET vs. J2EE: Implementing Web Services Right"	





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## PROGRESS/QUEST

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Progress subsidiary The Progress Co., claimed Excelon customers will benefit from the stability of Progress, and added the company "was pleased" at the price for which it was able to acquire Excelon ([www.exln.com](http://www.exln.com)). "It ended up being a good deal, but that wasn't the initial consideration," he said. "It fit in many different ways."

Sliwkowski said that Excelon's technology, specifically its XIS XML data management system, would help Progress ([www.progress.com](http://www.progress.com)) strengthen its position in the application-specific database market.

Gartner's Duggan, however, sounded a note of caution. "Progress has fallen in and out of love with its image as a database company. Every time they think of themselves as another Oracle, they lose ground."

Gordon Van Huizen, vice president of product management at Sonic Software Corp., another Progress subsidiary, said the acquisition will help Sonic grow in the standards-based integration market.

Van Huizen envisions XIS

being used as an auditing and logging service, as a core to a sophisticated high-speed transformation engine for large XML documents, as a staging area for XML documents, and to serve as a virtual data layer across enterprise resources. He said XIS fits with Sonic XQ's deployment infrastructure. "We're the pipes and they're the vessel."

Regarding Excelon's Stylus Studio XML editor, Van Huizen said, "I can imagine it being tightly coupled within the XQ environment. The challenge is to determine the correct architecture and the order of integration."

Sliwkowski said the companies hope to close the deal by the end of the year, and indicated that Excelon's development team will be retained.

Looking at the Sitraka acquisition, Quest ([www.quest.com](http://www.quest.com)) saw Sitraka's strong brand recognition and a large installed base upon which it could build a bridge over the gap between Java application development and database development. "We are looking to extend our TOAD family of products with JProbe," said Eyal Aronoff, Quest's CTO.

"We have come to realize in the database world, you can't work in a vacuum in an organization any longer," Aronoff said. "As those applications move into production, there should be some consideration between development and management of database and Java apps."

Quest offers a product called Control, which monitors database activity of Microsoft applications; with the acquisition, it can be extended into the Java app-server space, Aronoff said. While Aronoff said Quest's offering had been in the pre-production arena, the purchase will help the company cover applications running in production as well. He said Sitraka's PerformaSure monitoring tool will be integrated with Quest's Foglight monitoring tool.

Aronoff said the company will retain the Sitraka product names for the short term, and will go to market with product updates even before the integrations are complete. "Most shops look at monitoring and alerting, and performance management and diagnostics, as two separate things anyway," he said, adding the two will be united into an integrated product at some point. ■

## BORLAND

< continued from page 1

tecture modeling business. Rational talks to the CIO and VP of development. We start with the developer, then work up to team development and then management."

While this bottom-up approach might have been successful when Borland was selling simpler tools, choosing a lifecycle solution may be beyond the reach of individual developers—Borland's traditional buyers. However, Borland will still focus on its core customer base.

"Borland's traditional strength is in individual developer productivity," Shelton said. "Our expansion strategy is as an independent design and development company that will address individuals, small teams and large teams with versions of products aimed at each level."

Shelton indicated that integrations between the Starbase SCM and collaboration tools, the TogetherSoft modeling tool and Borland's JBuilder, Delphi and Kylix development tools will be complete next year.

TogetherSoft founder Peter Coad will play an important

role at Borland, Shelton said. "Peter and we believe design and analysis tools need to be more closely linked to the IDE. We want the use of [Unified Modeling Language] by a developer to be done in a tightly coupled way with the IDE, both interacting directly with the code."

TogetherSoft had recently acquired WebGain Inc.'s WebGain Studio IDE. Shelton said Borland will continue to support WebGain customers, but ultimately will migrate them to Borland's JBuilder IDE, marking the final chapter for the once-popular VisualCafé tool.

That certainly wasn't the expectation from TogetherSoft, which told SD Times during its acquisition of WebGain Studio that the move would "give Borland a swift kick in the teeth."

The transaction, which is expected to close by the end of the year, consists of \$82.5 million in cash and 9,050,000 shares of Borland stock. Shelton would not rule out other acquisitions in the near future, but said, "The base level of the new company—the return of Borland—is set. We've righted the ship and put it in a good position to grow." ■

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Selectively Deploy/Configure Services Across the Network	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Debug Multiple Services Remotely	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Use Multiple Languages and Scripts for Service Development	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Scale Smoothly with a Super-Peer Architecture	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Optimize business processes by exploiting data-parallelism	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Support Component Reusability and Team Development	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
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## SUN'S FUTURE

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of its long-standing disdain for Linux, and for its earlier decision to discontinue developing Solaris on Intel's x86 processors, he replied, "History is history. We listen to the marketplace, and if we need to change our strategy, we'll change our strategy."

### WHERE THE MONEY IS

"Sun has a history of being a disruptive innovator," said Schwartz. "We grew at IBM's expense, and we succeeded at Microsoft's expense, in certain core markets. Microsoft had a tough time in the telephony handset market based largely on our success. IBM has had historically a hard time associating itself with the Internet, which is why we grew so successfully in the telecommunications and financial services marketplace. Overall, we have a history of being able to dispassionately pull together a technology and a vision, and drive that like a hammer on a nail."

Schwartz, like his boss Scott McNealy, sets his targets on Armonk and Redmond. "The reason you rob the bank is because that's where the money is," he said, dismissing BEA and Oracle as targets. "We're not going to go tackle smaller companies; we're going after the core value stream in the marketplace. Eighty billion dollars in revenue goes to IBM, another 30 to 40 billion goes to Microsoft. That's an ample opportunity for us to go after."

Against IBM, Schwartz said, "we have Solaris. Most of IBM's WebSphere revenue has been on Solaris, not [IBM's] AIX. We have the customers' affinity for Java. And we have a history of innovation that IBM fundamentally lacks—innovation happens to IBM."

"The work we're doing around system utilization and virtualization," he continued, "is going to be a competitive threat to IBM. The pricing model of our middleware on Solaris is going to be a threat, because they're going to lose access to the Solaris marketplace. There's more we can do, like using MySQL to gut the DB2 revenue stream, or building partnerships with IBM's competitors."

It's a different story with Microsoft. "You've probably seen us tone down our rhetoric on Microsoft, because our customers have gotten the message. [Customers] have been spewing more anti-Microsoft rhetoric at us than we have at them," he laughed.

Schwartz rebuffed any suggestion that Sun is lacking in software innovation when compared with more aggressive companies in the Java market, such as BEA. "We're innovating in many ways. Our [Sun ONE] messaging server is running a million subscribers at Charles Schwab, a million and a half at Comcast. Our portal infrastructure is running at the same scale; our directory is absolutely dominating the market. There are a lot of areas that you don't normally consider part of the app server that we may change over

## THE MICROSOFT MANEUVER

Sun's plan to collapse its entire middleware stack, including application server, portal, directory and other features, into Solaris sounds reminiscent of Microsoft's bundling of IIS and Active Directory into Windows NT Server. But while Sun cried foul at Microsoft's software tying, Jonathan Schwartz, executive vice president in charge of Sun's software group, insisted that what Sun is doing is perfectly acceptable.

"In federal court transcripts, my testimony against Microsoft was that when you have a monopoly, it is illegal to tie. Microsoft has a monopoly, and they are tying. Thus, they are in federal court," Schwartz said. By contrast, he maintained, because Sun isn't a monopoly, it's to its advantage to tie its operating system and server software together. "If you didn't add new products into the products you deliver, it would be very tough to innovate. But when you do it to decimate the competition, in a monopoly motive, it's a fundamentally different thing." —Alan Zeichick

time, as the definition of an app server starts to include the portal platform, the Web platform, the identity and directory platform. BEA has been successful in the niche of J2EE app servers, but when customers look at application infrastructure for Web development, they're looking at a much broader spectrum of system software."

Plus, he added, "as more of this [software] begins to waterfall into the operating system, this will put pressure on companies like IBM, and others hoping to succeed in the middleware marketplace."

### GETTING THE MESSAGE OUT

Schwartz admitted that Sun hasn't been successful in explaining its software vision. When asked whether customers understood what Sun ONE represented, he replied, "No. We've done a poor job. That's why they call it 'fishing' and not 'catching.'"

And while the Sun ONE message has changed over the

years, he offered the latest streamlined version: "Sun ONE is the complete stack of system software from Sun, running on Solaris, running on Solaris on Intel, or running on Linux. Sun ONE is our complete middleware offering, which provides developers all they need in order to build robust, scalable network services."

How will Schwartz and his team get the word out? "If they're running Solaris, they'll get it," he flatly stated. But what if developers aren't running Solaris? Not an issue, insisted Schwartz. "I think the majority are [using Solaris]. The majority of WebLogic revenue, the majority of WebSphere revenue, is on Solaris. How am I going to compete for those developers? We have a tremendous developer franchise and we've got innovations we're driving into that, whether that's pricing—free—or the ubiquitous distribution we'll have with the reference implementation of App Server 7.0." In other words, through Sun's bundling the Sun ONE stack with Solaris.

He also said that a challenge is to change the market's perception of Sun. "People have to understand that we're serious and committed to driving the software business. The problem is, over time, as the market was growing, the No. 1 thing that people wanted to talk to Sun about was Solaris. Well, shame on us—we actually listened, and collected \$6 billion in cash as a result. That's given us a very different market position than 10 years ago, when the world assumed that Sun was dead because we weren't running [Windows] NT."

Where does Java fit in? "Java is a strategy across the company to ensure that we have open standards that peo-

ple can take advantage of to drive new systems. Standards drive a rising tide; that rising tide is one in which we expect to participate handsomely." Schwartz dismissed efforts by competitors to develop proprietary extensions to the Java specifications, calling Sun's refusal to develop such extensions a competitive advantage.

"We deliver an application verification kit to customers that lets them check to see whether their applications are J2EE standard. What customers find out is that when they use WebSphere, they're not [compliant]. That really pisses off customers, because they wrote to J2EE so they would have a choice. When quality problems in WebSphere cause problems for customers, and they want to move to another app server and find that they can't, that creates a reaction that IBM hadn't anticipated. That's why we have a stated perspective that standards are a good thing—and we'll continue doing what we can to drive them."

Of course, there are standards that Sun participates in—and those where the company isn't invited to the party, thanks to hostile relationships with other software vendors. "When Liberty Alliance was created, Sun did it—we invited all the other [vendors], and they elected not to participate. Their call. It was a hugely successful customer event," he said. "When WS-I got together, there were certain elements, WS-Security specifically, where Sun was invited in to give its endorsement. We continue to drive an enormous amount of evolution in the cable marketplace and the telephony marketplace. J2EE 1.4 is on track, and everyone is sticking to it because they need it."

### BACK TO 'DISRUPTIVE' ROOTS

Schwartz concluded, "I'm very bullish. IBM is making all its money from service contracts from people trying to fire all their IT administrators, and while Microsoft is making money by extracting a monopoly rent, they're not making money because they're innovating. We have a history of taking off-the-shelf components from here and there, and being a disruptive innovator. We're going to get back to being a disruptive innovator, to make sure we emerge from the current downturn stronger than when we entered it." ■

## MORE THAN A BROWSER

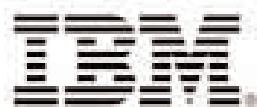
The handset market is central to Sun's vision of the future. "Our focus is on network services. While Microsoft's focus has been on the presentation of network services through a PC desktop, our focus has been on building them on servers so they can be accessed by any device," argued Jonathan Schwartz, executive vice president in charge of Sun's software group. "Right now, the No. 1 most popular Internet-connected platform is a telephony handset." The handset? Not the browser? "More people have access—granted, simplified access—to basic network services through a handset, and not necessarily through a PC desktop. If you look at the number of SMS [Short Message Service]-enabled handsets in the marketplace, there are hundreds and hundreds of millions."

But, insisted Schwartz, Sun's market success in the wireless space wasn't driven by Java 2 Micro Edition versus Windows CE, but rather by carriers' fear of Microsoft's ultimate intentions.

"It wasn't a technology issue," he claimed. "The main reticence that the carriers have is that Microsoft wants to jump into their value stream and take some of their revenue. Period. Microsoft uses the technology issue as a way to hide the reality of their motive, which is to monetize as much of the Internet phenomenon as possible. [For example,] MSN Money competes with retail bankers. Windows Media competes with the media industry. The technology platform [Microsoft] has is almost irrelevant. To Microsoft, it's more about content, and monetizing traffic, than it is about whether their messaging architecture is better than the Sun messaging architecture."

By contrast, he claimed, Sun isn't competing in the content space. "[Customers] can look at Sun as a supplier of technology that they can trust. They will look at Microsoft as having just sucked another \$3 billion out of an economy that's still licking its wounds." —Alan Zeichick





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# ARM Closes in on XScale

## Sixth ARM core improves media processing, RTOS speed

BY EDWARD J. CORREIA

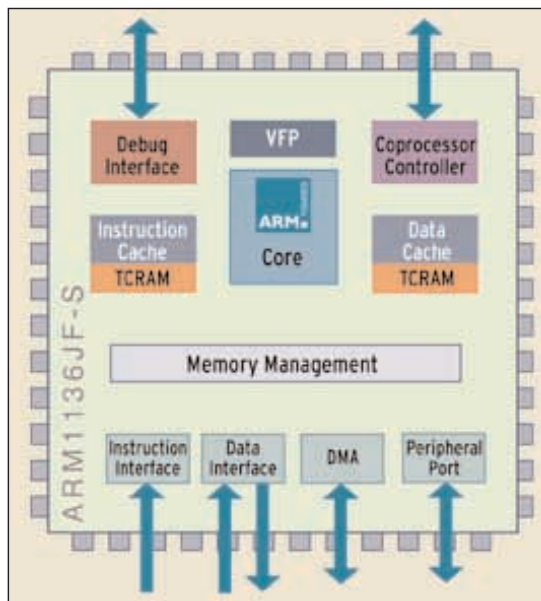
ARM Ltd. has taken the wraps off a pair of ARM11 processor cores, the first implementations of the company's ARMv6 architecture made public in April, which it claims deliver significant performance improvements over predecessors, and which one analyst said puts the company on par with rival Intel Corp. Shipments are scheduled to begin in December. The company also plans in January 2003 to begin delivering a version of its PrimeXsys Platform development system for building ARM11-based systems-on-chips.

The new cores, dubbed ARM1136J-S and ARM1136JF-S with integrated floating point unit, are 400MHz designs that ARM (www.arm.com) claims can potentially deliver double the media processing speed of ARMv5. According to John Rayfield, vice president of marketing for ARM's U.S. operations, this is due in part to single-instruction, multiple data (SIMD) support, which lets developers slice up their data into smaller chunks and gain performance through parallelism. "You can do four 8-bit

operations in parallel," he said. "So for things like graphics or video [processing], you can accelerate key parts of your algorithms that tend to consume most of your compute resource by a factor of up to 4." Both designs also will include Jazelle, ARM's implementation of a Java 2 Micro Edition VM in hardware.

Tony Messimini, chief of technology at engineering research company Semico Research Corp., said the new designs will help ARM licensees move closer to Intel. "It's a big improvement in performance and lower power consumption. The next click on [Intel's] XScale will have to be pretty impressive in order to stay ahead of ARM11."

A significant contributor to ARM11's performance boost, Rayfield said, is its eight-stage pipeline and two-cycle cache access. He explained how its relaxed cache flow timing differs from the more stringent timing



ARM claims that 64-bit external connections double bandwidth to level-one memories without affecting compatibility.

requirements of predecessors: "When the core goes to get something from the cache, an address comes out, and within one cycle the data has to come back. We've found that memory speeds are not generally keeping up with logic speeds, and having that single cycle to get data back is not sufficient. So we've pipelined the cache accesses, so as the address comes out, there's a full cycle before the data needs

to be back in the core." The change is transparent to software, he claimed.

Also contributing to media processing performance gains, Rayfield said, is dedicated direct memory access processing, with the DMA engine in the ARM core. ARM11 also builds on the 64-bit internal buses of the ARM10 designs with 64-bit external connections. "[That] increases the bandwidth into the level-one memories of the core and gives more flexibility to the system designer," he said.

Rayfield claimed that physically tagged caches, a feature new to ARM11, improve RTOS context switching. "Historically, ARM's cache architecture has been virtually addressed, [with] the MMUs on the outside of the caches," he explained. "Addresses out of the core would look in the caches, [and] if you went to main memory, you would go through the MMU, which would map to physical addresses. We've moved

the MMU inside the caches, so address translation happens before the cache access."

The reason for relocating the MMU, Rayfield explained, was that ARM found that Linux, Symbian OS and Windows CE developers were doing a lot of cache flushing to make sure that cache data was valid for the particular process their app was about to work on. "By moving to physically addressed caches, we've eliminated the need to do that flushing and picked up about 20 percent in additional performance in the same clock frequency." Rayfield said that existing operating systems and applications will work, but will not see the performance improvement until they are modified and recompiled.

### PRIMING THE DEVICE PUMP

In January, ARM is scheduled to begin shipping an ARM11-based version of its PrimeXsys Platform, a hardware, software and verification platform that lets developers begin building ARM-based devices targeting Linux, Palm OS 5, Symbian OS, VxWorks and Windows CE .NET. Rayfield said that so far, ARM has written device drivers and board support packages only for Linux, Symbian OS and Windows CE. Pricing is negotiated individually with each licensee. ■

# ZeoSoft Turns Every Device Into a Server

## Company creates EJB container with CORBA mapping for handhelds

BY EDWARD J. CORREIA

"Why stick with client/server and Web services when you can actually move enterprise processing further out?" So asks Mike Huestis, president and CEO of infrastructure software developer ZeoSoft Corp., which in mid-October released ZeoSphere 1.5, a development solution that he claimed turns mobile devices into CORBA-compliant EJB containers, and permits them to execute enterprise logic locally, remotely or in any combination.

According to Huestis, one should think of ZeoSphere as a shrunken J2EE app server for embedded devices running Linux, Symbian OS or Windows CE. "From our stand-

point, everybody is somebody's server. We're deploying an EJB 1.0 container with CORBA mapping to the handheld device," he said. The solution also includes an application and communications manager, an IBM DB2e or Point-Base Micro database, messaging and naming services, and an ORB, he said. Future clients are planned for Palm OS 5 and SavaJe's J2SE-based operating system, he added.

For its 7MB footprint, developers get an EJB container, ORB and JVM. "The developer gets the ability to deploy enterprise-class services to a handheld device without having to be a CORBA coder or an experienced Java coder,"

Huestis said. "We hide all the complexity. The server gets deployed with about three button clicks and [developers then have] the ability to build a Java bean or straight Java application and deploy it into the container with two or three more clicks."

Huestis added that developers building apps for a company's existing enterprise servers gain access to a deployed base of handheld devices that their servers can treat as peers. "Your iPAQ is now a peer server to your WebLogic server back in your enterprise. We have connectors that will allow you to directly execute a method on any bean in the enterprise from any process on a handheld device." Other benefits include ad hoc peer-to-peer networking. Aside from the

obvious messaging and data sharing benefits, Huestis illustrated a more clandestine advantage. "You could have a fully mobilized covert field operation and never need an enterprise server to support it. You never need Web services or Web pages to move data back and forth, and you never have to worry about somebody grabbing your signal; you can do messaging and file transfer without going through a carrier's server." ZeoSphere can use any wireless communication method, he said.

Huestis said the system also includes a form of artificial intelligence that had its origins in NASA's C-language interpretive production system (CLIPS) and permits user data or application methods to be available to enterprise applica-

tions any time the device is powered up. "For instance, if you have a large body of research work that you need access to, you'd import it and do metasearches on its contents. If somebody dials into your device, they can query your knowledge base and get information back. If you're a field technician and an expert in a certain [technology], people can get information directly from your device's knowledge base without you having to answer the device."

Available now, ZeoSphere 1.5 developer edition costs \$2,000, including licensing and management of five runtimes. The enterprise edition costs \$5,000, including 10 runtimes and unlimited management capability; additional runtimes cost \$150. Both versions include an unrestricted number of developer seats, according to the company (www.zeosoft.com). A wizard-driven development environment runs on Windows workstations. ■



Mobile devices are now enterprise server peers, says ZeoSoft's Huestis.



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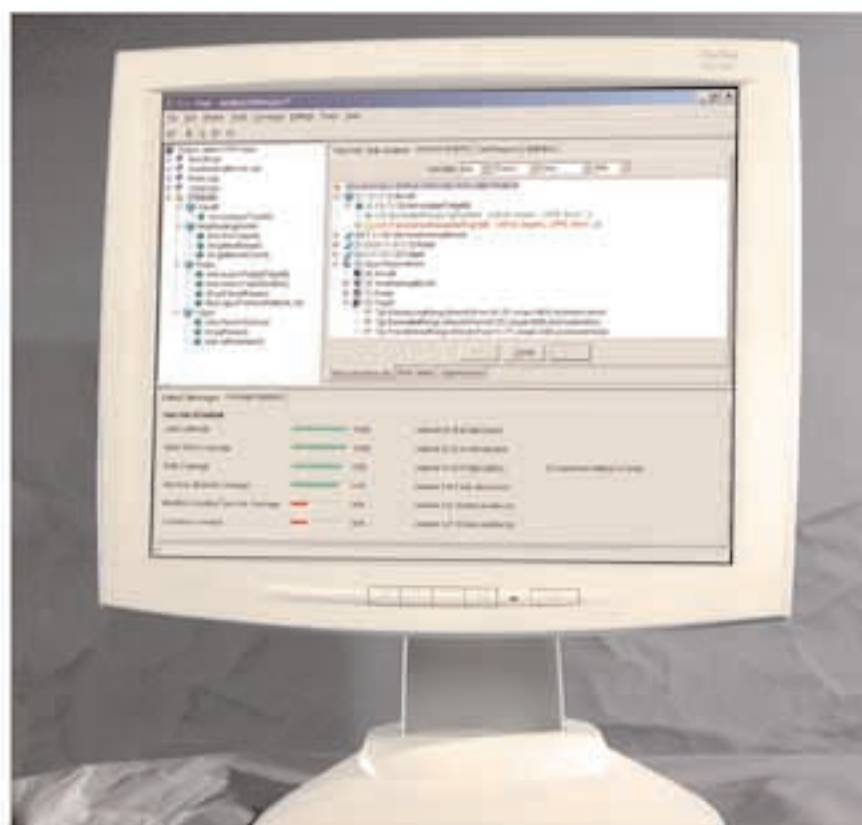
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# The Java App-Server Battle Continues

BY LISA MORGAN

**T**he battle for Java application servers has become more like a championship fight. Two years ago, there were more than 30 players in the space. As of now, Apache Software Foundation, IBM Corp., BEA Systems Inc. and Oracle Corp. have emerged as the heavy-weight contenders. And JBoss.org, Sun Microsystems Inc., Macromedia Inc. and Borland Software Corp. qualify as the middleweight contenders. But their positions may shift.

According to an August 2002 BZ Research survey of 1,425 SD Times subscribers, Apache Software Foundation's Tomcat is the most commonly used Java application server, followed by IBM, BEA, Oracle, Macromedia, JBoss, Sun, Borland and a number of others. The vendor ratings are generally consistent with reports from leading industry research firms, although some analysts, such as Meta Group Inc. and IDC, are not tracking Tomcat because it's a servlet engine, not a full Java 2 Enterprise Edition application server.

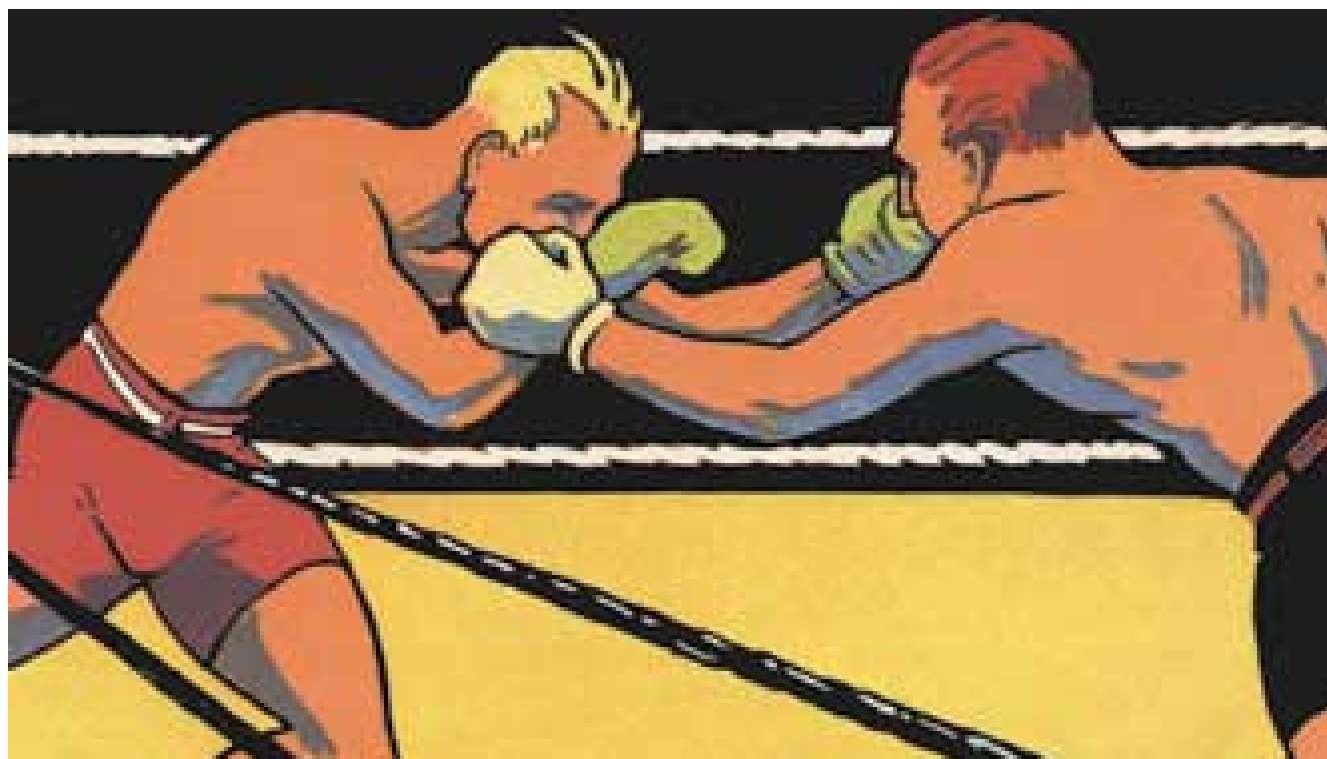
Why are more SD Times readers using Tomcat than BEA's WebLogic or IBM's WebSphere? They say it's ideal for prototyping and it's free.

According to Randy Terbush, one of the original eight founders of the Apache Software Foundation, quite a few organizations are deploying Tomcat as a JSP servlet service, and then offloading Enterprise JavaBeans (EJBs) to fully J2EE-compliant environments.

Developers like Tomcat because they can download it free of charge, avoiding licensing costs. Some are using Tomcat as an initial development platform, and then transitioning to fully compliant J2EE environments later. And others are circumventing J2EE servers altogether because EJBs are not necessarily required for integration, according



**IBM's presence helped validate the app-server space, admits BEA's Dietzen.**



to Terbush. Hence, the popularity of Tomcat.

## SIZE, PLATFORM STRATEGY MATTER

When it comes to an enterprise buy decision, vendor size matters. Executives, business line managers and development managers want assurances that the company they do business with will be in business two years from now. That's why major dollars are flowing to IBM, BEA and Oracle.

Having a platform strategy also matters, which is why IBM, BEA and Oracle offer portal and integration server solutions. Analysts say platform strategies separate the big vendors from the smaller ones, and that will continue.

"It's like the client/server battle between Microsoft and Apple," said Thomas Murphy, senior program director of application delivery strategies at Meta Group ([www.metagroup.com](http://www.metagroup.com)). "Microsoft won because more third parties were developing on its platform."

How far IBM, BEA and Oracle have advanced their platform strategies is a matter of debate. Each of the vendors claims to have a platform strategy, although not all industry observers have

equal faith in the three companies' ability to deliver a complete platform solution just yet.

IBM is viewed as having the strongest platform strategy, although IBM also is criticized for WebSphere's relative complexity. BEA has a platform strategy and is actively working to expand its portfolio of solutions, which analysts say is a smart move. Oracle also has a platform strategy and solutions; however, it is viewed as a database provider first and foremost, but one with the ability to deliver sound technological solutions, given enough time and resources.

## HEAVYWEIGHTS SLUG IT OUT

IBM has a slightly larger installed base than BEA, according to BZ Research; IDC ([www.idc.com](http://www.idc.com)) shows BEA slightly in front. Most analysts consider the companies about equal at this point, with Oracle in third place.

Apparently, people still aren't being fired for buying IBM. IBM Global Services recommends and installs WebSphere, which is a major competitive advantage. IBM also is selling WebSphere through a network of 9,000 business partners and has created a massive

developer network. The company sells to the Fortune 1000 and is making a push into the midmarket through partnerships with application vendors and systems integrators to provide a broader array of solutions.

Competitively speaking, IBM expects to remain ahead of BEA given its vast resources. But while BEA may not have IBM's resources, the company is often viewed as an innovator with superior technology. And indeed, Scott Dietzen, BEA's CTO, claimed the company has double IBM's market share—an installed base of more than 13,000 different end-user companies.

BEA became a leader in the J2EE space by buying and aggressively marketing WebLogic before most vendors even realized the app server's potential. IBM's presence in the space has been both a blessing and a curse for BEA. On one hand, IBM created a derivative work, insists Dietzen. On the other hand, IBM's presence and marketing muscle helped validate the app-server space.

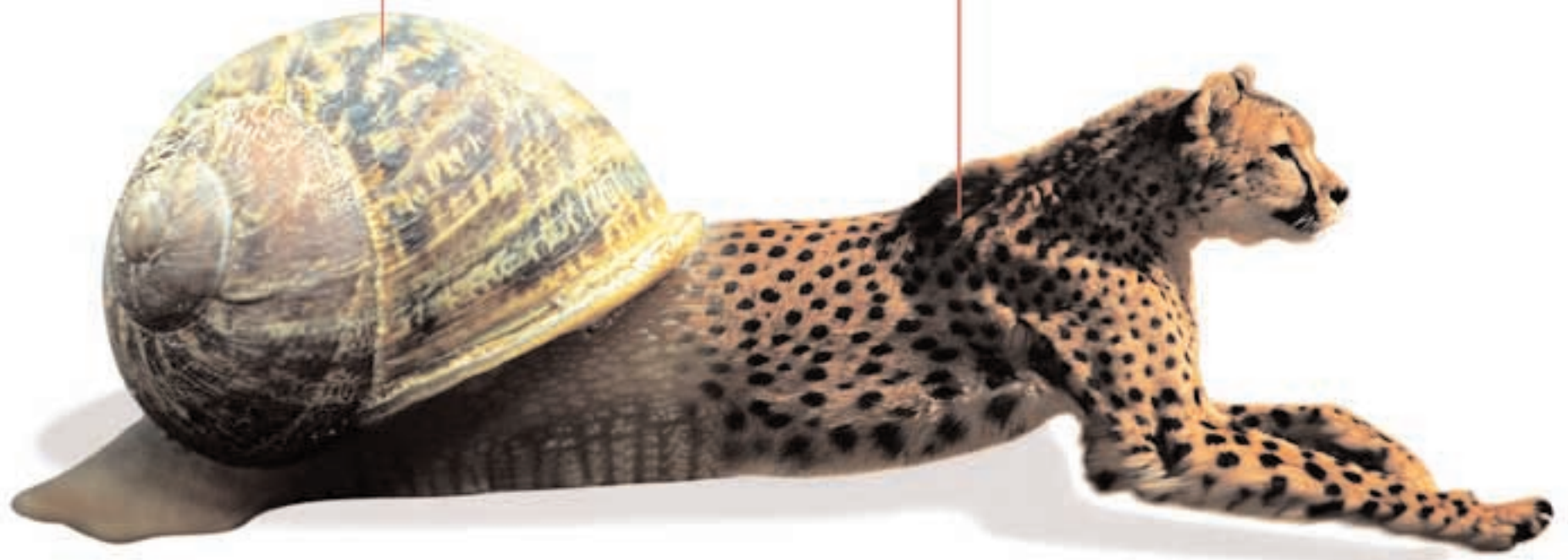
BEA sells WebLogic through a direct sales force and secondarily through systems integrators, ISVs and PC manufac-

► continued on page 25



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## JAVA BATTLE

◀ continued from page 23

turers. At present, more than 500 ISVs are developing vertical applications on WebLogic, and a number of PC manufacturers—save IBM—are embedding it. Unlike IBM, BEA does not have a global services organization, which is apparently very attractive to the large systems integrators.

Analysts are divided about BEA's ability to compete with IBM in the long term, however. BEA's platform strategy may help carry the company forward, but how well will the company execute? Mark Driver, an analyst at Gartner Inc. (www.gartner.com), pointed out that IBM's momentum is growing while BEA's is stalling.

What about Oracle? BEA views IBM as its biggest competitor, but IBM is more concerned about Microsoft. Neither BEA nor IBM mentioned Oracle to SD Times as a direct competitor in the app-server space. And yet, Oracle's influence is growing.

Oracle has been criticized for failing to place strategic value on its app servers and being late to market with a competitive product. Thomas Kurian, senior vice president of development at Oracle, argued that app servers are indeed important to Oracle because they are application platforms for building, deploying, integrating and managing services.

Late to the party or not, Oracle is sending out the right message at the right time and has deep enough pockets to build or buy what it needs. Just two years ago, the company shook up the e-business market.

As always, Oracle's database reputation overshadows everything else, which is good news and bad news for the company. The good news is, a massive installed base of database customers exists that Oracle can potentially leverage into 9iAS sales. The bad news is, some perpetually wonder how committed Oracle is to anything other than its database line.

Kurian said that Oracle's app-server customer base tripled in 2001, outpacing IBM and BEA in terms of growth. Ora-

cle is selling 9iAS directly and indirectly to its existing database customers.

Oracle also has been attempting to build deep portal and J2EE functionality into customers' enterprise systems with the help of 450 systems integrator companies around the world. In addition, 140 ISVs now deliver certified 9iAS solutions, including tools, security, firewalls and systems management solutions. Oracle also has established relationships with a number of Linux, Windows and major Unix OEMs that are taking Oracle into new, untapped accounts.

**App servers are indeed important to Oracle, says Kurian.**

Last, database VARs are selling 9iAS to customers since the 9i database now leverages it.

Make no mistake:

Oracle intends to sell a lot of 9iAS.

### MIDDLEWEIGHT KNOCKOUT

Borland and Macromedia have no intention of competing with IBM, BEA or Oracle; they'd rather partner with these companies, which analysts say is very smart. In both cases, the companies have neither the resources nor the products to compete with 800-pound gorillas. What they do have are highly regarded development tools and lower-cost app servers than the larger companies have. Borland's Application Server and Macromedia's JRun really are provided as a convenience to developers who are already using tools like JBuilder and ColdFusion.

Ben Riga, director of marketing for Borland's Enterprise Server, said the app server accounts for one-third of the company's revenue. Partnering with the large companies gives these smaller companies access to a new channel. Conversely, the larger players are gaining access to midmarket accounts.

Dan Murphy, a senior product marketing manager at Macromedia (www.macromedia.com), said Macromedia customers are the same as IBM, BEA and Oracle, but that Macromedia is trying to add value to the product layer—meaning Macromedia targets developers as opposed to line-of-business managers.

Sun managed to weigh in with an 11.8 percent installed base in the BZ Research Java study, which is again on par with other analysts' findings. Even Sun is not surprised, nor is the company making excuses for its standings.

The newest trick in Sun's book is to give away its Sun ONE Application Server (formerly iPlanet). This doesn't appear to bother its competitors at all. Usually when a vendor offers a product for free, it puts pricing pressure on competitors, which leads to a price war. In Sun's case, competitors say, look what the "free" strategy did for HP. On the other hand, don't forget what free did for Microsoft's Internet Explorer, as opposed to Netscape.

#### App Servers in Use

Apache's Tomcat	52.2%
IBM's WebSphere	29.0%
BEA's WebLogic	24.5%
Oracle's 9iAS	20.8%
Macromedia's JRun	14.7%
JBoss.org's JBoss	13.9%
Sun ONE App Server (iPlanet)	11.8%
Borland's AppServer or Enterprise Server	9.4%

Source: BZ Research, August 2002

#### Worldwide Application Server Software Market Share by Vendor

BEA	24.8%
IBM	23.0%
Oracle	12.1%
Sun	7.9%
Macromedia	4.9%
Sybase	3.1%
Borland	2.6%

Source: IDC

▶ continued on page 26

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## JAVA BATTLE

← continued from page 25

Not only does Sun bundle its app server with Solaris, but the company also offers it for competing versions on Unix, namely IBM's AIX and Hewlett-Packard's HP-UX. There are also versions for Linux and Windows.

Mark Herring, director of Java Web services at Sun, said ISVs and VARS will embed the free version in their next generation of products and as a result, their products will cost less. The latest version, 7, of the Sun ONE Application Server, released in late October, aims to make that more appealing by offering not

only a complete implementation of J2EE 1.3, but also Sun's Java Web Services Pack. Sun's theory is, if app servers are free, there's no buying decision to make.

Take JBoss. There were 1.9 million downloads of JBoss as of September 2002, according to Marc Fleury, founder of JBoss.org. In an era of tight bud-

gets, free is an attractive price point, he said. And of course, some developers prefer the kind of quality that comes out of the open-source community, compared with the quality that comes out of some vendor companies.

The drawback to adopting an open-source solution is support. This is the biggest criticism ana-

lysts have of JBoss. JBoss Group has a team of 16 consultants, most of whom are well-known names in the open-source community. If you want JBoss support, JBoss Group will happily give it to you...for a price.

Within the middle tier, Macromedia and Borland are expected to primarily serve their developer bases going forward with extra revenue potentially flowing from partnerships established with the larger app-server vendors.

Sun and JBoss are wild cards. Sun's ability to execute may improve now that the software groups have been consolidated under executive vice president Jonathan Schwartz, although the company has a long history of failing to market software effectively. JBoss, by virtue of being an open-source solution, may gain more ground among developers. It is viewed more as a precursor to a big vendor solution like WebLogic. However, JBoss' Fleury claimed JBoss is gaining momentum at BEA's expense.

### PICKING WINNERS

Distilling down what the vendors and analysts say, here's how it could shake out:

The Apache Software Foundation is dedicating 90 percent of its resources to the Jakarta project, which includes Tomcat. This will translate to richer features down the line and continued popularity among developers.

Analysts seem to agree that IBM will likely defend its position and Oracle will probably gain more momentum in the space moving forward. BEA has the most to lose. BEA will either defend its position against both IBM and Oracle, or it won't, depending on how well it executes its platform strategy.

Borland and Macromedia each may gain some leverage based on their strategic relationships with the larger players, although neither is expected to become a dominant player given their size, resources and focus on developer tools. Sun hopes to gain momentum, but as always, the company's ability to execute will determine whether it gains or loses market share. JBoss will likely continue to grow in the space as a result of being a good open-source solution that's available for free.

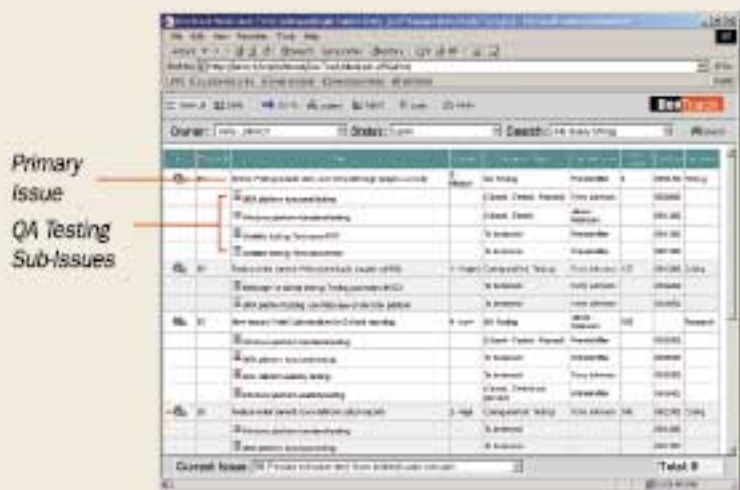
Bottom line: The first- and second-tier players will probably remain in their respective groups, but the rankings within the groups will likely shift. ■

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## EDITORIALS

## Follow the Money

While the economy continues to chug at a slow pace, the past months have seen a definite uptick in mergers and acquisitions in the software development market. Discounting the dismantling and piecemeal purchasing of the moribund WebGain, October saw four high-profile deals: Borland's \$24 million purchase of software configuration management provider Starbase; Progress' \$24 million purchase of XML tools and database maker Excelon; Quest's \$51.7 million buy of Sitraka, the former KL Group that sells Java performance analysis tools; and finally Borland's end-of-month grab of TogetherSoft for \$185 million.

While the sheer magnitude of the M&A activity harkens back to the late 1990s, an important note is that the first three deals were all-cash transactions, and even the TogetherSoft buy was for \$82.5 million in cash. These four purchases present a tremendous investment into long-term growth by the executives and directors of Borland, Progress and Quest.

Is this investment a vote of confidence in the economy, or merely bottom-fishing by companies with excellent cash and credit? Certainly there's an element of opportunism at play, but these four moves, which also coincided with October's stock market rally, may indicate that the worst is over for at least one technology field.

While it's possible that the Dow and Nasdaq might continue their volatility, and perhaps even test new lows over the next few quarters, these four significant mergers of well-established software development firms may be heralding a return to healthy growth.

The software development industry was one of the last to be whacked by the economic downturn; it may be one of the first to recover. Look for more M&A activity in the near term, as other players prepare for the next growth cycle.

## Learning From the Enemy

Each of the major platform vendors has its own middleware strategy. IBM wraps all of its tools and servers into the WebSphere product family, emphasizing cohesion, heterogeneity and global services over specific technologies. Oracle views the world as a database, and its 9iAS app server feeds primarily into 9iDB. Microsoft believes in one platform, under Windows, with Visual Studio and .NET for all. BEA drives growth by enhancing its J2EE application server.

What about Sun? Increasingly, the company that "put the dot in dot-com" is emulating archrival Microsoft. This has never been so apparent as Sun's new emphasis for gluing its software stack to its operating system. Last May, Sun began shipping its Web application and directory servers as part of the Solaris 9 distribution for SPARC. By next summer, it will be including its identity, portal and messaging servers, and other key portions of the Sun ONE stack as well.

Sun is betting that low-priced or no-cost middleware will deny market opportunities to its competitors. Perhaps...but the J2EE middleware market hasn't been price-sensitive. It is uncertain whether customers will view a low entry-level price as sufficient incentive to switch. ■

## GUEST VIEW

## MAXIMIZING THE RETURN FROM UML

UML tools are great for communicating a common understanding about the requirements of an application. But when it comes to implementing requirements, developers treat them as mere drawing tools because they generate only class declarations and method signatures, which represent less than 1 percent of the total application code, and the handwritten code gets out of sync with the UML application model.

A minority of developers have begun to embrace UML as a tool for documenting existing code, especially if they haven't written it themselves since major UML modeling tool vendors provide a reverse-engineering capability. Developers are using the most recent versions of modeling tools as visual editors of the code they need to write since these tools keep the UML application model and its code representation in sync. Cool feature, but where's the ROI?

The reality is that developers need to produce greater amounts of error-free code in less time. Can a UML modeling tool address this situation? Yes, but only if used effectively. It's a known fact that the biggest

development cost is people. How can you cut down on that cost? Modeling tool vendors will claim that each developer requires a license for their tool to visually design and implement all the code of the application.

One approach is to increase developers' productivity by providing everyone with UML modeling tools. However, a more effective approach is to provide only the software architect and key developers with a UML license containing the core domain classes of an application, thereby significantly reducing developers' manual intervention by automating as much as possible.

## MAXIMIZE YOUR ROI

The ROI from one UML modeling tool license per developer can reach 20 percent. In application implementation, the code associated with an underlying infrastructure can represent up to 70 percent of the total code that developers have to write manually. This code has a lot of commonality that can be abstracted and standardized as architecture patterns, which represent the best implementa-

tion practices that address how technology APIs found in the infrastructure should be reused. Most developers should avoid learning these APIs and writing the infrastructure code needed to implement a domain application.

MICHEL  
BRASSARD

On the other hand, assuming that just 50 percent of the application is domain-specific code, freeing the developers from having to learn the infrastructure or write the code that reuses the APIs found in the underlying infrastructure can provide a ROI of 200 percent.

Let's discuss how to get the most from a UML modeling tool with a minimum of one software architect who actively participates in the actual development of an application—and submit that this can be more profitable for an organization than providing each developer with such a tool.

## DECOUPLE THE DOMAIN LOGIC

The Model Driven Architecture initiative of the Object Management Group has created a specification that provides two important UML benefits: It

## GUEST VIEW

## THE FUTURE OF WIRELESS

Mobile and wireless technology will be, more and more, part of everyday business, and we will see how IT departments will figure out how to incorporate personal devices within their infrastructure (a huge concern today). We just have to admit that personal devices will continue to pop up in businesses, and that it is just too difficult to split the use of such an inherently personal device between business and personal use.

Those devices will be multifunctional, multimodal and always connected units, with the capability of configuring themselves (automatically or user-initiated) in the field and on-the-fly. Indeed, many devices already support over-the-air application provisioning. It's clear that those devices will be used for both voice communication and access to electronic information—what-

ever it is, whenever it is, wherever it is. In the future, when buying a mobile device, all that functionality will be there for you and your customers. But to be widely adopted by the typical user, mobile/wireless technology and its use have to be nonintrusive, proactive, easy to use and cost-effective, not to mention secure (for peace of mind).

However, the applications and usage of these devices will be very business-specific. Predicting the future on what the killer mobile/wireless application will be is very difficult. There is no such thing as a wireless problem that developers have to solve...they are merely business problems. So to be successful, mobile/wireless applications must solve a specific problem, that being access to e-mail or CRM or

trouble tickets—a problem that is customer-specific. In other words, what company A considers to be its killer app might be worthless to company B—but at the end of the day what is important is that the app must solve a given problem and work well in the current environment.

C. ENRIQUE  
ORTIZ

Of course, for companies that provide hardware or software infrastructure for wireless computing, trying to discern or invent a killer mobile/wireless application isn't a top priority.

What is important is understanding and removing what is preventing or slowing down the adoption of mobile/wireless technology.

A major obstacle in the adoption of mobile/wireless in corporations is the IT department—and I don't blame them. This is because they are respon-



protects the UML investments made during the modeling of the domain layer of an application, and it provides adequate agility when implementation changes are required. If an enterprise's domain layer is captured inside a technology-independent UML model (a so-called platform independent model or PIM), then the model serves a similar function to a refined analysis model because it represents the logical view in which the composition and behavior of all components (but not their implementation) are fully specified.

Since a PIM, by definition, does not contain technology details, one expects that the PIM will be mapped to one or more platform-specific models (PSM). The PSM, which serves the function of a refined implementation model, represents the source code or its UML representation. The term PSM is used to refer to technological and engineering details found in an application software infrastructure that are irrelevant to the functionality found in the enterprise's domain layer of an application.

Consider, for example, a formal definition of an operation that transfers funds from a savings account to a checking account. The domain layer logic of this operation is that a speci-

fied amount is subtracted from a designated savings account and added to a designated checking account. This functionality remains invariant whether the operation is performed by an Enterprise JavaBean (EJB) or Microsoft .NET component, or whether the amount of an account is retrieved from a relational or an object-oriented database.

Because they streamline and speed up the development process and realize the benefits of MDA, architecture patterns have become the translation rules used to refine a PIM into a desired implementation. Architecture patterns do not rely on proprietary or standardized 4GL tools to generate great amounts of usable code.

Consequently, this way of developing an application becomes architecture-centric and, thus, architect-centric. The architect can enforce the architecture at its code implementation without having to rely on code reviews, the generated code looks as good as code written by the best developers, and it does not require a runtime engine.

Within a development process, architects typically define common infrastructure services that can be reused by a developer who is not a master of the underlying technologies.

sible for safeguarding the IT-related technology and the flow of information through IT managed resources. So to be adopted, those concerns must be addressed. Some of these concerns are device-related—for example, minimum requirements (typically for security reasons, such as support for SSL or VPNs), device inventory, authorized and secure access to corporate servers and safeguarding data resident in the device, and application provisioning and licensing.

Other concerns facing IT include how to protect the corporate servers from rogue device clients, while still others include how to support all kinds of devices, including push-based (proactive) notifications, how to integrate with existing business processes in a (cost) effective way, the ability to support new applications without requiring new infrastructure, scalability, how to address all the above concerns without bringing a dozen vendors in-house, and security.

There is still a lot of work ahead of us—for some it is about creating solutions that solve specific problems, while for others, it is about end-to-end infrastructure (where the bulk of the work is) so that IT departments can feel comfortable with the technology—and both sides of the coin (solutions and infrastructure) are required for the successful adoption of mobile/wireless technology into the day-to-day business.

So even though I don't expect mobile and wireless technology to be widely adopted within corporate IT for at least another year—this is not a negative thing. The core technologies that you need are here now—you can start understanding and planning your wireless strategy today. ■

*C. Enrique Ortiz is an independent consultant with more than 13 years of industry experience. He concentrates on mobile/wireless technologies, industries and solutions.*

With an MDA approach, architects are the appropriate owners of the translation rules because they can utilize them to encapsulate the architecture constraints and patterns needed to get the best practices when the PIM is implemented over the number of in-house and commercial frameworks found in a PSM. This reduces the level of developers' skill required to implement the unique end-user use cases defined in the PIM.

#### MINIMIZE CHANGE'S IMPACT

An important aspect of the MDA approach is that it has a nondisruptive impact on developers when the software architecture evolves. You'll never get the architecture right the first time because the best implementation practices of the current technologies found in the infrastructure improve over time and because the infrastructure changes. When a software architecture is modeled in UML, its evolution and maintenance require tedious, repetitive, manual intervention because all the details of the infrastructure are contained in the UML model.

Say you want to change an architecture pattern. You have to reflect that change in every occurrence where it was used to realize a PIM for a given

PSM. A preferred approach is to automatically derive the PSM from the PIM by taking advantage of a UML profile to annotate the UML elements found in the PIM with mapping rules that will be used to selectively apply architecture patterns as translation rules. A change in an architecture pattern will then be automatically propagated in the PSM.

If you are not using a UML modeling tool properly, then you're missing out on an opportunity to maximize the value of the tool. By providing UML modeling tools to software architects and key developers (those who best know the technological and engineering details of the target application software infrastructures), you can automate the generation of PSMs from a single PIM, making efficient use of architecture patterns and minimizing the impact of evolving your architecture.

This way of working can significantly reduce both the skill level and amount of manual intervention required on the part of your developers. An ROI of 20 percent or 200 percent? What kind of return are you looking for? ■

*Michel Brassard is founder and CTO of Codagen Technologies Corp.*

#### LETTERS TO THE EDITOR

##### SEAPINE NOT THE FIRST

It was quite interesting to read your article on Seapine Software's Surround SCM product release ["Seapine Moves Into Management," Oct. 1, page 1, or at [www.sdtimes.com/news/063/story4.htm](http://www.sdtimes.com/news/063/story4.htm)]. The statement made by Rich Clyde, vice president of Seapine, that claimed his new product is the first platform-portable SCM system is interesting. By contrast, our Spectrum-SCM, which was launched last year at Java One, was introduced in the marketplace in June 2001.

SpectrumSCM is a full-featured source configuration management tool in the marketplace that supports multiple platforms (Solaris, Windows, Mac OS, Unix, Linux, mainframe). SpectrumSCM not only has both command-line and GUI interfaces, but it also is the only full-featured CM tool that provides full CM functionality over the Web. SpectrumSCM can be installed as an applet and it

runs through any browser.

**Sarathi Srinivasan**

President and CEO

Spectrum Software Inc.

##### SOLARIS ON EBAY

I know I am late to the table on this one ["Pinochle on Your Snout," Feb. 1, page 29, or at [www.sdtimes.com/cols/webwatch\\_047.htm](http://www.sdtimes.com/cols/webwatch_047.htm)], but Solaris is not that expensive or proprietary for one or two processors. You can use a single processor license for free, and Sun equipment is cheap on eBay. I dare say you can put together a nice server on Sun/Solaris for under \$500. I've done it.

**Bob Collins**

Schaefer-Fagan & Coopers Engineers Inc.

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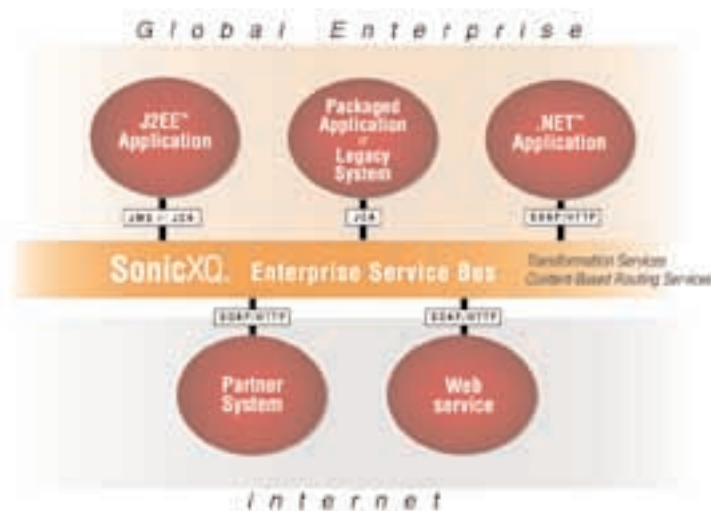
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## IS ANYONE DEPLOYING WEB SERVICES?

In early October, I moderated several panels at the Web Services Development Conference held in New York City under the auspices of SD Times and Penton Media's Internet World trade show. These panels discussed key topics: progress of standards, security, tools and EAI through Web services. I was keen to participate because New York tends to have a disproportionate number of early adopters due to the presence of the financial-services industry a few blocks away. In a poll done during each panel, I asked for a show of hands of sites currently implementing Web services (either as pilots or as full deployments). Results were consistent: About 5 percent of the attendees raised their hands. My colleague Larry O'Brien, who gave a pair of extensive how-to lectures on Web services programming, saw similar adoption rates in his sessions.

Conversations with attendees and panelists pointed to several compelling reasons for the low tallies. Here they are in rough order of importance as I see them.

**Uncertainty About Value.** Most sites are interested in Web services because they're easy to understand, appear to be easy to implement, and they can deliver benefits that other technologies struggle with. Chief among these

advantages is application integration. In the Web services scenario, applications that previously twisted themselves to perform EAI can now use XML and HTTP to move data around the enterprise easily. The reality is slightly different. XML is a performance sink, and as one panelist pointed out, if all the apps you're trying to coordinate with are in-house, you might as well use an agreed-upon format that doesn't require conversion to text and parsing. Indeed, binary data and old-fashioned record layouts process faster and don't require new skills.

As to HTTP, Web services can be delivered over other transports, such as messaging middleware, which is considerably more reliable and can be made synchronous where necessary. Hence, for in-house EAI, it's not exactly that Web services bring compelling value.

For B-to-B, the situation is not much different. Certainly XML makes sense as a sort of lingua franca of file formats. But it's not clear the rest of the work involved with WSDL and SOAP adds much. Partners generally can set up intercompany communications with EDI-like solutions that are proven, secure and reliable. Only where companies want to expose

services to a defined group of vendors do Web services have unique appeal. Such situations are still few today and quickly run into the next problem.

**Security.** The biggest obstacle to exposing Web services to defined groups or the public is security. Security, of course, appears even with internal applications, such as intranets. And this issue is a long way from being resolved. The problems exist in two areas primarily: authentication/authorization and malicious requests. The former problem is well known.

The second involves the same headaches that currently plague Web servers: crackers inducing the server to mistakenly execute requests, such as the many forms of Denial of Service attacks. Of equal concern are other forms of attack as yet undefined but certain to rely on unique aspects of SOAP or WSDL.

Finally, there is the client-side problem of reliance on publicly available Web services. What happens when the provisioning server is down? A facile solution is to provide failover and redundancy: If server A is down, try sending the request to server B, and so forth (sort of like the NNTP time servers). However, this solution requires companies to host Web services on multiple servers at different sites, all of which are

in sync. As yet, few firms view this as something they're eager to invest in. As a result, only a handful of companies, such as Amazon and UPS, are offering Web services, as pilots.

**Lack of Standards.** The security problem will need to find resolution through standards organizations. However, the standards process is only just starting to address security and other problems. The W3C, which administers the central protocols (XML, WSDL, SOAP and HTTP) in conjunction with OASIS, has done a good job moving these standards forward as needs required. A second body, WS-I, which is a private, commercial consortium with political overtones, is trying to define standards for security, transactional logic and inspection. A third body, OASIS, is in charge of UDDI and is formulating the SAML security specs. How these standards will work out into the marketplace is far from clear and unlikely to be known soon.

What is clear is that with standards still under development, security still unresolved and compelling ROI still unformulated, most sites are approaching Web services cautiously. As a result, adoption is low. I predict that adoption will not accelerate soon. ■

*Andrew Binstock is the principal analyst at Pacific Data Works LLC.*

### MIDDLEWARE WATCH



ANDREW BINSTOCK



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## GOOD NEWS FOR WEB SERVICES SECURITY

Even as experts expound on Passport's weaknesses, Microsoft presses forward with it. Classic Microsoft marketing: Get to market first, never mind if it works, and you'll rule forever.

Microsoft announced the latest round of its Passport push earlier this month when it stated that the company would share some of Passport's source code in the hopes that this would spur adoption. The program will begin in November with Redmond saying that it's sharing enough of the Passport Manager code to allow developers to let users access corporate portals or network resources via Passport-enabled Web services. All this is happening under the Shared Source License, but the code will be usable by commercial as well as noncommercial users.

But wait, there's more. Those lucky folks running Linux and Unix-based apps will soon be able to enjoy Passport as well. Microsoft has allowed Ready-to-Run Software Inc. (Chelmsford, Mass.) to begin selling versions of Passport Manager that will run on platforms other than Windows. For its part, Ready-to-Run says it's been working on developing such connectivity for almost two years, and so will be ready to deliver Passport "kits" for other operating systems in only a few months.

All this on the heels of numerous announcements by Microsoft covering technology upgrades to the Passport authentication platform. Passport Manag-

er was only the first, acting as a pseudo authentication server even though its identity information will remain stored at central servers hidden deep in some dank caves near Seattle. Another announcement was Passport's future support for SAML, the Security Assertion Markup Language developed by OASIS. Why the sudden push? Because adoption of the Web services development paradigm has been less than stellar—due in large part to worries about security. Worse, other vendors have announced their intentions to get into the Web services authentication and identity management game, and these guys aren't playing around.

Entrust and RSA Security both recently unveiled new initiatives that clearly show that these heavyweights do not want to be left out of the Web services arena. Both companies have heavy-duty existing security arsenals covering authentication and single sign-on, encryption and PKI. Neither has seen much sales action with these products recently, but Microsoft's sudden Web services frenzy seems to have filled them with hope. And heck, why not? If Redmond is intent on pushing this Passport dog, why not move in once that fails? .NET developers will be desperate for Web services security that works, and everyone gets a lot more

brand-name warm-and-fuzzies with names like ClearTrust and Entrust than they do with Passport.

Both companies' new initiatives outline not only security enhancements, but also initiatives designed to tie their products directly to Microsoft's .NET technology. RSA plans to support SAML and is looking to build an RSA SecurID software token for Microsoft's Pocket PC 2002 platform. RSA is even looking to ride on top of Passport via a new partnership with iRevolution that will let Passport users access Passport-enabled sites via RSA's Mobile one-time authentication platform.

Entrust isn't slouching either, announcing an entire product delivery road map centered entirely on Web services. Its new Identification Service will enable the validation of both federated and nonfederated identities (read both Passport and non-Passport); meanwhile, the Entrust Entitlements Service will implement SAML and will be the routing mechanism between authenticated users and specific Web services; and last, the Verification Service will offer digital signature capability and time-stamping.

All this means that now I can turn to a third party for A-Z Web services security with far fewer worries about mysterious bugs that suddenly crop up and expose your Web service or data to anyone with an abacus. And I also don't have to deal with the heebie-jeebies every time I remember that Microsoft

has control of all my identity data.

But are these third-party technologies going to be a bigger implementation headache than Passport? You betcha; robust security is rocky and complex, and anyone selling you something simple or plug-and-play is suspect. There are far more elements to a PKI-based solution than Passport. Managing certificates, revocation and user identifies are only three, but if you think about it, implementing these technologies as Web services may actually help smooth out some of these headaches. As a Web service, authentication truly embraces the Internet concept, whereas before we were always forcing a client/server-oriented technology where it really didn't want to go.

The really good news is that Microsoft so far isn't fighting this third-party intrusion. In fact, it's getting pretty chummy with RSA, promising to embed its SecureID agent into the next version of ISA Server. The only thing I'm still looking for is testing. Promises are nice, but if Web services vendors are really looking to create demand for this technology, we need to see it proven. Someone needs to test Web services authentication technology, data security and SAML implementations from all available vendors and publish the results. Should any of you intrepid readers out there know of such an effort, please let me know. ■

*Oliver Rist is a freelance technology journalist and president of FB2 Corp., a New York-based software manufacturer.*

### WINDOWS & .NET WATCH



OLIVER RIST

## JAVA'S ROLE IN A STRUGGLING ECONOMY

It's sad watching the IT education ads during my daily dose of "The Simpsons." Make great money! Have a fulfilling career as a network administrator or as a programmer. Ha! Maybe that worked in 1999, but this is 2002. I've seen people place "Will program for food" ads, and they weren't being funny about it. They're dead serious.

Technology businesses keep saying that the recovery is two quarters away. They've been doing that for eight quarters now. When I was a kid, I believed in the tooth fairy. Then I grew up. It's time for us to grow up. The economy's bad, the technology sector is one of the hardest hit, and it's not going to be changing anytime soon.

Will the economy recover? Sure. I just don't think it will be in the near future. So what do you do in the meantime?

For starters, you stick by your programmers who've stuck by you. Yes, anyone who comes out of college now with any programming skills almost certainly knows Java. And, yes, they'll be cheaper, but can they produce? Do they know the difference between Java in school and Java in production? A few do; most don't. Tempting as it is for bean counters to get rid of well-paid veterans, I think

the long-term fall in productivity and morale will hurt you more than any short-term financial gain.

What you can do is do what you've always done: Try to make money. But, where in this economy should you go for profits, or for the biggest return on IT investment?

First, much as I love technology, you need to give up your love affair with technology for its own sake. I don't care how spiffy the newest protocol, application or toy is; if it doesn't have a business context in a slow economy, it's not worth wasting time on.

Next, you should check in with your existing customers. If their IT budget has shrunk—a safe bet—you should be focusing on long-term, continuing contracts. I doubt very much that many of your customers are going to be starting any new big-ticket projects anytime soon.

Let's look at some specifics. I don't think that there's going to be much call for any new J2ME jobs. Sure, there are endless ads for new 3G wireless phones that can take photos, deliver Web pages quickly and bridge the gap between Short Message Service (SMS) and instant messaging.

What the ads don't tell you is that there's no infrastructure in place for 3G telephony wireless. I doubt that there's more than 50 square miles in the U.S. that has the coverage that can handle the speed required to make those fancy phones do their tricks. And, that's not likely to change. The telecoms are poster children for bad financial times, and it's all they can do to maintain and expand their existing wireless infrastructure.

We've also all heard the Web services hype. Let me tell you what it's not going to do. It's not going to encourage people to run personal desktop applications from central servers. Nor will any such plans with J2ME at the client end.

Why not? Because people keep trying similar ideas and they've always failed. Remember the Network Computer? Flop. Application service providers? DOA. Two things always kill these plans. The first is that people like PC-centric computing. Many IT managers love it because of the centralized control aspect, but the rank and file simply don't go for it. The day you'll tear PCs with local applications from users' fingers will be the day you pry their cold dead fingers from the keyboard.

The other problem, and the one that fat-protocoded Web services have in spades, is that the bandwidth isn't there.

Home users don't have enough bandwidth, and office users already contend with overloaded networks. As I like to put it, why should I run an office application over an Internet connection and take over a minute to get it to load when I can be up and running in seconds if it's on my PC.

Yeah, yeah, I know lots of people are intent on being Web services first movers. So what? The first mover advantage is vastly overrated. Remember eSpeak, HP's early version of Web services? It's dead now.

So where do Web services make sense? That's easy—middleware for the enterprise. If you're already working a lot with J2EE, then looking where Web services will help with your customer bottom line makes sense.

The reality is, you can make money by working on and expanding existing projects. I think your best opportunities both for this, and whatever new work emerges, will be in J2EE. If times were better, maybe chasing J2ME work would be worth your time. As it is, though, I just don't see many such projects emerging. As it has been in the past, and continues to be, J2EE is the place where investment in Java makes sense. ■

*Steven J. Vaughan-Nichols is editor of Practical Technology (www.practical-tech.com) and has worked as a programmer for NASA and the Dept. of Defense.*

### JAVA WATCH



STEVEN J. VAUGHAN-NICHOLS



## MORE HAZE ON THE HORIZON

The third-quarter earnings season has been perhaps the most closely scrutinized in recent history. After several years of economic decline and stagnation, especially in the high-technology sector, and predictions of a recovery on the horizon, investors, businessmen and the public at large all are looking for a sign—any sign—that things are finally looking up.

Well, there are plenty of signs to be seen in the most recent corporate filings; unfortunately, it would take a fortuneteller on the order of Asbury Park's fabled Madame Marie to glean a clear picture of what lies ahead.

As can be seen in the accompanying chart, of the companies tracked, most reported a decline in revenues from a year earlier.

Slowing sales are not the stuff of which an economic recovery is made. But if there is good news to be taken from the reports, it's that more of these companies claimed to turn a profit for the

quarter than they did a year ago. That means the companies are being managed better, getting the proverbial more from less, or in the case of Sun, they are letting go thousands of employees.

An increase in unemployment will not help get the country back on its feet.

Meanwhile, in the face of compounding negative news, analysts and pundits alike are predicting a return to growth.

### INDUSTRY WATCH



DAVID RUBINSTEIN

Some claim it will happen as early as spring of next year; others claim we won't see any upward movement until late in the year or even years down the road. No clear signal there. The basis for these predictions seems to be a theory of inevitability; simply put, this recession has gone on long enough, and the economy just

has to turn around some time. The recent stock market mini-rally seems to bear this out; maybe investors believe prices are as low as they're going to go. As we've seen, though, there always seems to be a new

bottom lurking beneath the old bottom.

In the technology arena, breakthrough developments have largely been responsible for pulling the sector out of past downturns. Desktop computing, the Internet, e-mail and networking all led technology out of previous slumps and to new heights, before the inevitable return to earth. Today, analysts are scanning all corners to find the next big thing that will spark a new rally.

So far, it appears, .NET is not the answer. Neither is Java. Nor is the executable Internet, application modeling, mobile and wireless computing or broadband. All are either too new or lack a compelling argument to rescue technology. Also, some of the solutions target businesses, while others target individuals and hobbyists. There is no consensus on which direction technology should take; merely a smattering of offerings crossing a wide range of user experiences. Unless they come together, none of these on its own will be strong enough to lift the sector.

From the perspective of business users, the lack of a compelling argument has been reflected in those declining revenues; businesses are not taking fliers on new technologies because they have not seen a proven ROI to this point. The days of buying technology for the sake of technology are long gone. If there is no overriding business reason, companies are standing pat. Just as Americans are traveling less and sprucing up their homes, so too are businesses shoring up their infrastructures, pursuing avenues of reuse, and not merely bringing in new products simply because they are told of the next "must-have" item.

Only one thing seems to be clear as of this writing: Vendors that can reflect this philosophy by helping businesses get the most out of their current assets will continue to be successful. Those first-movers selling the next wave of the future risk drowning in the undertow. ■

David Rubinstein is executive editor of SD Times.

### GAINERS AND LOSERS

	REVENUES			EARNINGS/LOSS		
	Q3'02	Q3'01		Q3'02	Q2'01*	
Ascential Software	30.2	27.0	↑ 12%	(16.3)	(6.7)	↓
Compuware	358.0	427.8	↓ 12%	33.8	26.5	↑
Mercury Interactive	97.9	84.0	↑ 16%	13.3	(7.1)	↑
Microsoft	7,750	6,130	↑ 26%	2,730	1,280	↑
Pervasive	4.1	5.2	↓ 21%	(0.4)	(2.7)	↓
Rational	154.5	163.7	↓ 6%	(19.4)	(21.6)	↓
Rogue Wave	9.3	13.7	↓ 32%	(4.8)	(0.1)	↓
Sun	2,700	2,900	↓ 4%	(111)	(180)	↓
Sybase	203.0	226.8	↓ 11%	25.2	20.0	↑

\*Does not reflect sale of Informix product line to IBM in Q3'01.

All figures in millions

### BUSINESS BRIEFS

**Poet Holdings Inc.**, the parent company of embedded software developer **Poet Software Corp.**, has spun off its North American database business operation and created an independent company called **FastObjects Inc.**, to be based in San Rafael, Calif. The new company's core business will be marketing and support of object-oriented data management components for Java and C++ applications. David Guinther, Poet's former VP of field operations in North America, has been named president and CEO of FastObjects. Poet's former director of services, Michael Schwiager, will serve as VP of services. . . . **ARM Ltd.** has a pair of licensees to go along with two recently released ARM11 microprocessor cores, which are implementations based on its next-generation ARMv6 architecture. Cell-phone pioneer **Qualcomm Inc.** will use the ARM1136J-S core in future versions of its Mobile Station Modem chip sets for high-speed voice and data applications. And **Texas Instruments Inc.** has licensed both the ARM1136J-S and ARM1136JF-S with integrated floating point unit for use in its digital handsets. TI also has for the first time delivered a version of its power management software tools with its C5510 DSP Starter Kit, enabling developers to identify and correct potential problems related to performance and battery life in the early stages of design, the company said. In the past, developers were unable to measure power consumption until the validation phase of development. . . . **Defywire Inc.**, a provider of wireless solutions for enterprise applications, will use integration software from **webMethods Inc.** to provide remote access to data within Oracle, PeopleSoft, SAP, Seibel and other enterprise applications from any Java-based wireless device. ■

### CALENDAR OF EVENTS

**Embedded Systems Conference** Nov. 18-21

Boston  
CMP MEDIA LLC  
[www.esconline.com/boston/](http://www.esconline.com/boston/)

**Comdex Fall** Nov. 18-22

Las Vegas  
KEY3MEDIA EVENTS INC.  
[www.key3media.com/comdex/fall2002](http://www.key3media.com/comdex/fall2002)

**Software Development Conference & Expo** Nov. 18-22

Boston  
CMP MEDIA LLC  
[www.sdexpo.com](http://www.sdexpo.com)

**Integrate 2002** Nov. 19-20

Arlington, Va.  
OBJECT MANAGEMENT GROUP INC.  
[www.integrate2002.com](http://www.integrate2002.com)

**XML Conference & Expo** Dec. 8-13

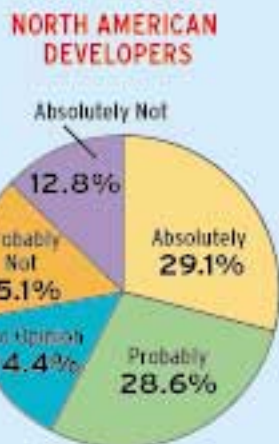
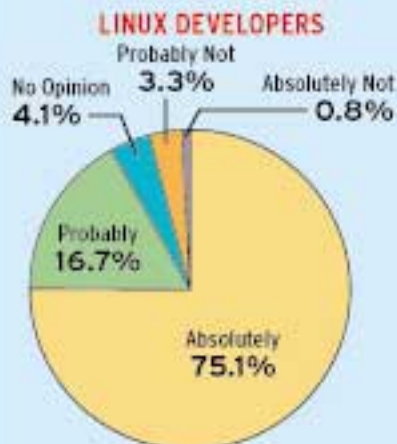
Baltimore  
IDEALLIANCE INC.  
[www.xmlconference.org/xmlusa](http://www.xmlconference.org/xmlusa)

For a more complete calendar of U.S. software development events, see [www.bzmedia.com/calendar](http://www.bzmedia.com/calendar).

Information is subject to change. Send news about upcoming events to [events@bzmedia.com](mailto:events@bzmedia.com).

## Do You Have Enough Confidence Today To Use Linux for Mission-Critical Applications?

### EVANS DATA WATCH



In two studies recently completed by Evans Data Corp., developers were asked whether they have enough confidence in Linux to use it for mission-critical applications. The results vary, depending on whom you ask.

One of the studies, conducted this summer of an audience comprising Linux developers only, showed that 75.1 percent of respondents indicated that they trust Linux "absolutely." By contrast, a slightly earlier study, of North American developers—including, but not limited to, Linux developers—showed that only 29.1 percent of general developers share that absolute level of trust in Linux for mission-critical apps.

Source: Linux Developer Survey 2002, Vol. 2. © 2002 Evans Data Corp.  
[www.evansdata.com](http://www.evansdata.com)









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